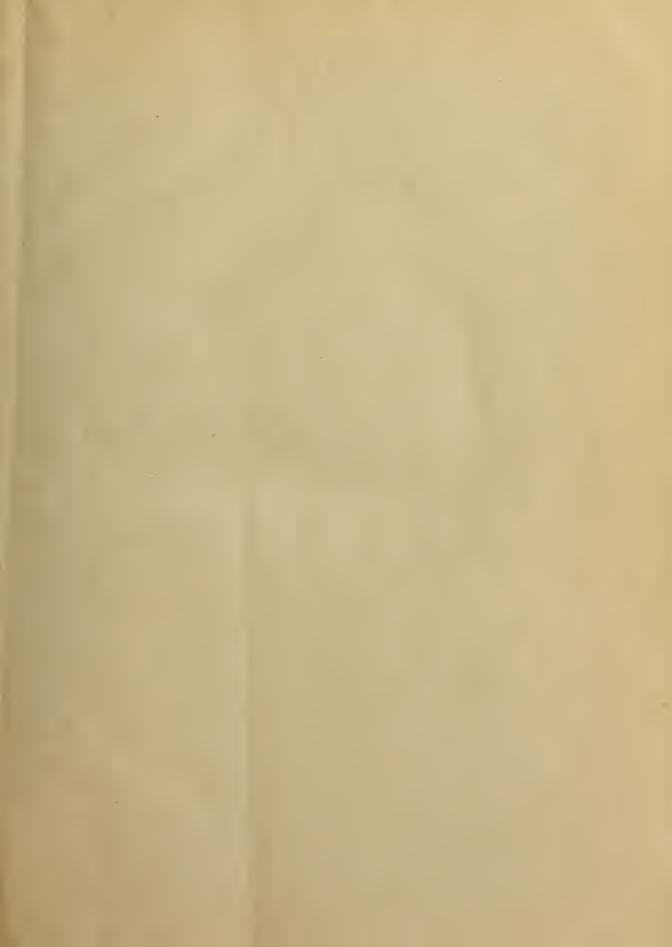
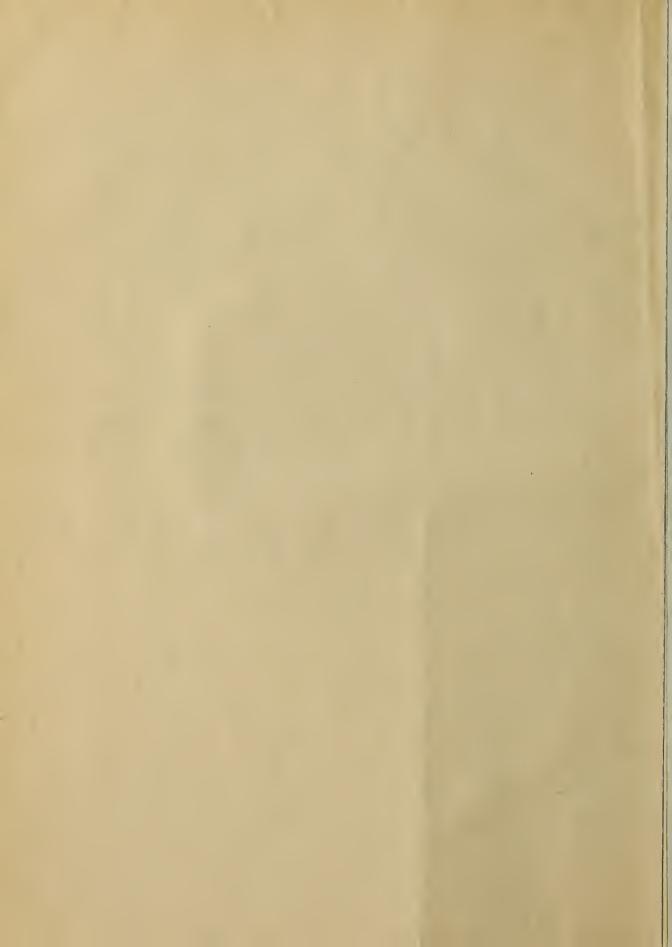


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THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

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July 1943

No. 1

THE PERFORATING PEPTIC ULCER

JAS. E. CAMERON, M. D. Alexander City, Alabama

Another discussion of this often discussed subject is thought justified by the rapidly increasing frequency with which one encounters the condition. There is a definite increase in the number of peptic ulcer sufferers but the increase in the incidence of perforation is even greater. It is probable that the war will do nothing to alter this trend. It will be the sole purpose of this paper to bring to you again the points of the writings of others which should enable us to reduce the alarming mortality rate carried by this condition.

In 16,752 collected cases the gross mortality rate was just above twenty-five per cent. In early cases, those operated on less than six hours after perforation, the mortality rate is near ten per cent. With each hour of delay the rate rises. In the cases coming to operation late, the complications are both more frequent and severe. With no operation the outcome is nearly always fatal. The outlook for the very young, for women, and for men above the age of forty is poor.

That a perforated peptic ulcer is no longer a rarity is proved by the fact that a member of this Association recently wrote on the subject a discussion of one hundred thirty-four cases. In the past four years there have occurred eleven cases, proved by operation or autopsy, in the small community in which the writer resides.

The cause or causes of peptic ulcer are not definitely agreed upon. Likewise the cause or causes of ulcers going on to perforation are poorly understood. An increase of pres-

Read before the Association in annual session, Birmingham, April 20, 1943.

sure within the stomach and duodenum after a large meal may cause some perforations but that history is not constant. The increase in intra-abdominal pressure brought about by straining work or a sudden blow in the abdomen is often related as the final cause of the perforation. The points of most immediate interest and concern, to most of us, have to do with the diagnosis and treatment of these acutely ill people, after the perforation has occurred.

Unless a diagnosis is promptly and cornectly made in the patient suffering from an acute perforation, the outcome is usually fatal. That the diagnosis is not always easy is proved by the fact that an incorrect diagnosis is made in some eight to fourteen per cent of the cases admitted to some of the largest and best equipped hospitals.

The age incidence is important, as probably more than one-half of all cases occur in men between the ages of thirty and fifty years. Perforated ulcers do occur in the very young, in women and in the aged so no age is absolutely immune. The incidence in the Negro race is probably not so high as in the white race.

A history of preceding ulcer symptoms is usually present; about 80 per cent have a more or less typical history of ulcer symptoms—periodic pain in the epigastrium relieved by the taking of food or alkalies. That leaves about twenty per cent who deny any such history. The most significant point of the history seems the action, or lack of it, taken by the patient after the onset of the pain of perforation. Only the most stoical indulge in any bodily movement after perforation without crying out in pain. Any

unnecessary movement is carefully avoided. The patient who walked several blocks or finished a task previously begun rarely is suffering from a perforated ulcer. Vomiting occurs in about eighty per cent of the cases of perforation.

The pain following perforation is characteristic in severity but inconstant in location. It is most often felt in the epigastrium first and later in the lower abdomen; or generalized. Initial pain may be in the other parts of the abdomen, or even in the shoulder area, but it is invariably sudden in onset and severe.

If the patient is not relieved by operation in the first twelve hours, his pain may lessen and he will think himself improved. At that time he is being misled by his own body and his best chance for recovery has passed. His operation may be still further delayed by this false sense of improvement.

The physical signs exhibited by these patients fortunately are more constant than the histories related in agony. The patient lies motionless; his face may be ashen and sweating but he is rarely in true shock; his pulse is full and slow. His temperature is normal; his blood pressure normal or elevated. He moves only to express pain. abdomen is board-like and tender. Resonance over the area of normal liver dullness may be present. On rectal examination acute tenderness is found anteriorly. X-ray films taken in the sitting or standing position will show a gas bubble under the diaphragm in about 85 per cent of cases.

This picture is the easy one to recognize and few mistakes occur when even a majority of these signs are present. In a few cases the diagnosis is more difficult because of complicating or co-existing lesions but more often the diagnosis is difficult because of atypical symptoms.

Such conditions as actual shock in the first few hours after perforation do occur and usually lead to an early death. As stated before, the patients with perforation usually look shocked but actually are not.

Many conditions have been erroneously diagnosed as perforated peptic ulcer and needless operations performed. This may be a fatal mistake. There are also many instances recorded in which the perforated ulcer was mistaken for a non-surgical condition and operation was fatally delayed. The conditions with which a perforated peptic

ulcer is confused may be divided into three classes: (1) Other lesions of the viscera. such as mesenteric thrombosis, acute cholecystitis, acute appendicitis, ruptured ectopic pregnancy, acute pancreatitis, or pelvic inflammatory disease. (2) The second class is made up of the intrathoracic lesions such as pneumonia and coronary disease. (3) The third class includes such conditions as the reaction from the Black Widow spider bite and tabetic crises. The most common error in diagnosis arises in those cases of perforated ulcer in which the most marked tenderness, pain and rigidity are found in the right lower quadrant of the adbomen and the condition is thought to be due to an acutely inflamed appendix. In every case of "acute abdomen" the possibility of a perforated ulcer must be seriously considered.

In the patient with a long-standing history of epigastric distress relieved by the ingestion of food or alkalies and the typical signs of a perforation, the diagnosis is easy. A correct diagnosis is equally important though not so easy when no such history is related; and one-sixth of all patients with a perforated ulcer deny any history of dyspepsia. Another eleven per cent say that their symptoms of peptic ulcer had been present for less than two months. So, roughly, one-fourth deny a history of chronic dis-

Various types of anesthesia for these patients have been and are used. It would seem the concensus of the recent writings that spinal anesthesia is the most generally favored.

The most commonly used incision is the high right rectus incision. Whatever incision is used, it must be adequate for good exposure. The character of the peritoneal exudate, the presence or absence of food or medicine within the abdominal cavity and the possible hiss of escaping gas will aid in the search for the trouble. A vast majority of perforations occur in the immediate neighborhood of the pylorus so that area should be searched first. Once the perforation is brought into view a serious problem confronts the surgeon. What type of treatment is indicated in this case? Unless constriction of the lumen of the duodenum will result, most prefer to close the perforation by simple suture (with or without omental graft) and come out of the abdomen. constriction of the duodenum results from

the closure of the perforation, it is usually decided that gastro-enterostomy, gastric resection or pyloroplasty must be done. A few have advocated enterostomy through the perforation. Some of the bolder surgeons report good results from gastric resection at the time of perforation as the operation of choice. Their good results must have come either from a very superior technical skill, from very early operations, or a combination of both. Certainly the great majority of perforations are today closed by suture and no other operation done.

Another unsettled question is the advisability or inadvisability of placing drain tubes in these patients. There are still all gradations of opinion in this matter. Some advocate a drain in the pelvis and one in the upper abdomen. Some say never drain. Some say place a drain down to the parietal layer of the peritoneum but none inside the abdomen. Good logic can be mustered to support almost any stand. The general trend is away from drains.

Shall one introduce one of the sulfonamide group of drugs into the abdomen at the time of operation? This question can only be answered correctly in the light of further experience.

The immediate postoperative care of these gravely ill patients is always of serious concern. The maintenance of electrolyte balance by the intravenous administration of glucose in saline is begun at once. The Wangensteen suction drainage is begun immediately and continued for days. The use of blood plasma and transfusion is often useful. Thiamin chloride, riboflavin, civatimic acid and nicotinic acid are given as aids to healing and to prevent deficiency states while the patient is on a necessarily restricted diet. Heat to the abdomen and oxygen by tent or tube are useful in preventing or combating distention of the abdomen. The giving of a suspension of aluminum hydroxide in water is begun even before the Wangensteen tube is removed and it seems to afford comfort to the stomach and duodenum.

The use of the suction-siphon drainage in these patients is worthy of an added measure of comment. The danger of damage to the ulcer or suture line is more theoretical than real, but the advantages are very real. The stomach and upper intestinal tract can be kept free of fluid and gas thereby eliminating the danger to the suture line from disten-

tion. The character and quantity of the aspirated fluid serve as the best means of telling when the tube may be safely withdrawn. Of course it may be replaced if necessary.

The immediate postoperative complications most often encountered are wound infections, generalized peritonitis, pulmonary complications, fistula formation and wound disruption. These must be dealt with as after other operations except the fistulae which nearly always close spontaneously in a few days. The late complications are stenosis, recurring perforation, incisural hernia, and continued trouble from the same or another peptic ulcer.

It was once widely taught that once an ulcer had perforated, and the patient had recovered from it and the effects of operation, he would have no more trouble from the ulcer. Undoubtedly that happy result does occur at times. At other times the perforation is only the beginning of a long siege of untoward events for that patient. Among those whose ulcers heal without further trouble, it is possible that the memory of the ordeal associated with perforation is vivid enough to make him adhere closely to a prescribed and proscribed behavior pattern. The patient submitted to gastric resection at the time of operation likewise is impressed.

With improvements in anesthesia, earlier diagnosis, better surgical management at operation and after, the outlook for the individual patient has vastly improved. The number of perforations occurring to-day, however, is so much greater than formerly that more people now die of this condition than ever before.

SUMMARY

The number of cases of perforated peptic ulcer is rapidly increasing. The immediate cause of perforation is usually obscure. The diagnosis is usually easy but at times very confusing. Most cases occur in men between the ages of thirty and fifty years. Most of the patients vomit. The pain is variable except in respect to suddenness and severity. The x-ray is the only laboratory aid of much help in making a diagnosis. Shock is not a common finding in these patients. Many conditions can simulate the picture of a perforated ulcer. Not all patients will relate a history of long standing ulcer symptoms. Spinal seems the most generally accepted anesthetic of choice. Simple suture of the ulcer is the most widely used operation. The

question of drainage of the abdomen is unsettled. The immediate postoperative care is of the greatest importance. Postoperative complications are both frequent and severe. Later symptoms of an ulcer may necessitate further surgical intervention. Early recognition and early operation are the keynotes of success in the management of the patient with an acute perforating peptic ulcer.

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INFANTS AND OVERFEEDING

MARTIN G. NEELY, M. D.

Fairfield, Alabama

It has long been agreed by all physicians that the best way to feed any infant is from its mother's breasts. However, this day and time we see many mothers who do not have an adequate milk supply to have a satisfied baby, or one that gains the minimal 4 ounces a week; and then there are other cases in which, for various reasons, it is not feasible to continue breast feedings. If a mother has been unsuccessful in nursing two previous babies, there is not much chance of her being successful with the third. Intercurrent pregnancy, inverted nipples, tuberculosis (active or inactive), chronic disease of the mother, such as Bright's disease, blood dyscrasias, etc., prolonged acute illnesses, mastitis, unilateral or bilateral, badly cracked nipples, and, at times, an emotionally unstable mother are all definite contraindications to breast feeding. When a physician sees that it is necessary to give an infant another food than the breast, either in part or entirely, he

should appreciate his responsibility and see to it that he treads slowly, giving his tiny patient time gradually to adjust itself to an unnatural food.

A newborn baby's stomach contains practically no digestive juices, 80 per cent of digestion taking place in the duodenum and intestine. The capillaries are very permeable in the new born, readily absorbing any partially digested protein or fat, causing the infant to become sensitized to that portion of the food and in a few days showing signs of infantile eczema. Although these facts are well known, very little attention is paid to them by the majority of physicians and pediatricians. In streamlining hospital care it has become a universal practice to have a stock formula to feed babies when milk besides the breast milk is needed, and this stock formula all over the country is usually made up with 7 ounces of Carnation milk, 14 ounces of water, and two tablespoonfuls of Karo, or, in other words, the equivalent of two-thirds cow's milk and one-third water.

Read before the Association in annual session, Birmingham, April 20, 1943.

This is fed to the infant whether two or three days old or several weeks old. though the fat of cow's milk is much less digestible than breast milk, and although the protein is 80 per cent casein and 20 per cent lactalbumen instead of the 50-50 proportion of breast milk, and the babies' digestive juices have not begun to function as well as in the older child, the majority of these babies grow and in most respects do well. They gain weight rapidly and the more they gain, the prouder the mother, and in many instances the prouder the physician. Each mother seems to want her baby to weigh more than any other baby of the same age in the block regardless of what the normal weight for that baby should be-and so it has become customary to increase the strength of the formula to the equivalent of whole cow's milk as fast as possible. The young debutante that weighs 250 pounds does not get many glances of admiration as she walks down town and yet she is not any more out of proportion than the 6 months old baby that weighs 25 pounds and every one says is such a fine baby.

As I have implied previously, one of our worst effects from this regimen is that of sensitizing our patient for future allergy, most often manifested in the form of eczema; but at other times manifesting itself in any of its various ways. Often these symptoms are severe enough to warrant the changing of the formula to some other type of milk such as goat's milk or sobee. Often vinen the change is made to goat's milk the patient appears better for a few days and 'hen disappoints us and becomes worse, so hen we switch to sobee or some other form of soy bean milk, and the same thing happens, and we feel like the baby must be sensitive to everything, and never stop to realize that we were not satisfied by making a mistake the first time and sensitizing it to cow's milk; we switched to goat's milk and gave that in the same proportion as we had started the cow's milk formula and sensitized it to goat's milk, too. Then to make the job complete, we started it on sobee in a strong formula and sensitized it to that also.

Allergy is not the only ill effect that we see from overfeeding. It is without a doubt the main cause for the constipated baby, the residue of the large amount of fat in the formula forming the firm soapy stool that causes the baby to have to strain terribly.

This condition does not always worry the physician very much, but it certainly is a great source of worry to the mother.

The baby that is constantly vomiting, and the "colicky" baby in many instances, has its condition because of a formula that it cannot completely digest. This is not by any means the cause of all colic, for God only knows the reason for some of the crying babies, but it is the cause in a great number of them.

Diarrheas, of course, are often caused by overfeeding, but these children are more fortunate than those in the other groups, as the physicians have recognized this for a long time and adjust the formulas sooner.

There are some general rules about feeding infants that should be borne in mind, but they are only guide posts and are not applicable to every individual baby. Most normal babies under 4 months of age and slightly thin babies of any age require 50 to 55 calories per pound per day. Normal and fat babies over 4 months of age require 40 to 45 calories per pound, and very thin babies should get 60 to 65 calories, but these more concentrated formulas should be arrived at gradually, being certain not to overstep the tolerance of the individual baby.

When a baby is a week or ten days old and is nursing the breast but not getting a sufficient amount, and it is necessary to give it a postcibal formula, I believe it is all right to begin it on the equivalent of one-half cow's milk and one-half water. I usually begin my postcibal feedings with a formula of 5 ounces of evaporated milk, 15 ounces of water and one tablespoonful of Karo, and even if the baby is several months old before the formula is necessary, I think we should always begin with it at least that dilute. I start gradually increasing the strength of this formula at the end of a week or ten days, according to how well the baby is doing.

If for some reason it is necessary for the new born not to go to the breast at all, it is the custom of Doctor Stringfield of the New York Post-Graduate School to give the baby only water for the first 24 hours. During the second day he gives only 5 per cent glucose solution. At the end of 48 hours, he begins them on a formula of 5 ounces of cow's milk (not evaporated milk), 15 ounces of water and one tablespoonful of Dextri-Maltose. After two days of this formula he

increases the milk one ounce a day through the 12th day. On the 13th and 14th days he decreases the water one ounce each day, and by then his formula has reached the proportion of half milk and half water. The Dextri-Maltose is increased one tablespoonful every third day until 4 tablespoonfuls or one ounce is given. A baby under 2 months of age needs one ounce of added sugar and over 2 months he should have one and one-half ounces.

Even with the premature baby, which we have always been told needs a very high caloric diet, although they are weak and do not kick and move around as full-time babies do, Doctor Stringfield begins with a very weak formula, usually figuring from 15 to 25 calories per pound to start with, gradually increasing the strength until at the end of the third week they are getting around 55 calories per pound. These prematures need a high protein and high carbohydrate diet with a low fat content. This is obtained by starting with one tablespoonful of Similac to 4 ounces of water and at the end of two weeks adding two tablespoonfuls of casec to each 15 ounces of this mixture. Iron, calcium and the vitamins are also added at the end of two weeks, with very small doses but gradually increasing the dosage.

It has been proved that orange juice causes more sensitization than any other fruit, so before the scarcity of ascorbic acid due to the war I had thought that in the bottle-fed baby it was wise to use these tablets until the baby was 3 months old and then begin the orange juice. Now, however, I think it better to start the orange juice at the age of two weeks, but only one-half teaspoonful mixed with one ounce of water to start with, increasing the orange juice every third day until one ounce is reached. Even then we will get some infants who develop a rash. Still, if we do not give vitamin C in some form when a baby is not on the breast at all, by the time it is 3 weeks of age the blood level will be down to 0.25 mgms. instead of the normal 0.75 to 1.5 mgms. per 100 cc.

Cod liver oil likewise should be started with only one drop and slowly increased to the desired dosage.

As to when to start cereal feedings, there are many different ages advocated, some saying 3 months, some 4 months, etc. I do not think that the age of the baby is as good a criterion as the weight and development.

When a baby weighs 14 pounds, if its reflexes have developed enough for him to be able to eat from a spoon and successfully carry the food from the lips to the throat with its tongue, it is time to start the cereal. This reflex develops about the 4th month in the average baby. Vegetables and strained fruits are usually begun about one month later. These are all complex foods, and like everything else should be started with very small amounts and gradually increased, and should there be any allergic history in the family, even more care should be taken, remembering that nothing is gained by starting these foods too soon.

In summarizing, in my opinion, we are definitely overfeeding many of our infants to no advantage. Many cases of eczema, constipation, vomiting and colic are due to this practice. Many of these cases can be prevented by starting the infant on small amounts of any new food whatever it is, and gradually increasing it, allowing the babies' digestive organs to adjust themselves to handle this food; and by prescribing a diet sufficient to make an average size baby and not one designed to make it the largest baby in the vicinity.

Rupture of the Uterus-In the classical complete rupture, the outstanding feature is a sudden, severe, tearing pain in the region of the uterus, followed immediately by abdominal pain and collapse of the patient into a state of shock. One then observes a cessation of labor and the disappearance of the contracting ring, with recession of the presenting part in the abdomen. The fetal heart tones will be found to have ceased, and on palpation the uterus will be displaced laterally and contracted. A severe anemia completes the picture. Vaginal bleeding may or may not be present. Such a syndrome should enable one to make a diagnosis without difficulty. The matter, however, is not always so simple. The shock may be of varying degree, or the patient may have recovered from the actual collapse before presenting herself for treatment, as was true of the author's cases reported herein. If the fetus has not passed into the abdomen, or if the rupture is not on the anterior surface of the uterus. palpation may elicit little information. A flat plate of the abdomen may be necessary to demonstrate the position of the fetus. Cessation of the fetal heart tones and uterine contractions will, of course, indicate an emergency, but are not definitely diagnostic. In incomplete rupture, the diagnosis may be even more obscure. The patient may complain of nothing more than malaise, the fetus may remain viable, and the uterine contractions may persist, permitting spontaneous delivery per vaginam.—Black, South. M. J., July '43.

THE VENEREAL DISEASE PROBLEM IN ALABAMA

W. H. Y. SMITH, M. D.

Montgomery, Alabama

During the year 1942 there were reported to the State Health Department 19,272 new cases of syphilis; 7,328 new cases of gonorrhea and 328 cases of chancroid. Applying the U.S. rates of 4 per 1,000 population for new cases of syphilis, it would appear that syphilis cases are pretty well reported. However, there should have been ten to twenty times as many more cases of gonorrhea reported last year than were actually reported. The problems are manifold insofar as the reporting of gonorrhea is concerned. First, many of the probable cases of gonorrhea never reach a physician's office, being seen by druggists and druggist clerks or by friends only. Many cases treat themselves either because they have had repeated attacks of gonorrhea and are now all wise medically or because of the publicity given to the sulfonamide drugs. Many more cases could be reported by clinics and private practitioners if the index of suspicion was higher. During the month of January, with Dr. Pelouze as the index raiser, an attempt was made to raise this index of suspicion in Alabama. As a follow-up of these talks, the State Venereal Disease Consultants are urging the finding of more cases of gonorrhea by (a) encouraging the private practitioners to report all their cases, (b) naming and tracing contacts, (c) the realization that more contacts occur than are usually named (the Armed Forces are negligent on this score too), (d) creating the interest of the health officers in tracing out small venereal disease epidemics, and (e) realizing that gonorrhea case finding amongst syphilis patients is quite profitable.

At the present time there are 191 free venereal disease clinics in operation in the State. In fifty-six counties there are two or more clinics and in only 11 counties is but one clinic in operation. These latter counties are rural counties except in one or two instances. In these clinics each month the number of patients treated for syphilis has increased from 14,730 in January 1942 to 21,-847 in January 1943 with an average of about

Read before the Conference on War-Time Venereal Disease Control, Montgomery, February 26, 1943.

19,000 per month; and for gonorrhea from 438 in January 1942 to 779 in January 1943 with an average of around 700 per month. These figures are too low since, by just a rough comparison, it would appear that we have approximately as many patients with syphilis under treatment each month as were reported for the year. But this does not take into account those patients who have had syphilis since 1938 (less than 4 years) and who have not been treated. In analyzing the patients with syphilis under treatment in all central tabulating unit clinics for December, it was found that 49.7% or almost 50% were early cases. Around 40% of the new cases reported in Alabama each year are early syphilis. On the face of things it looks like we are holding our own. But we are not. An analysis of what happened to the syphilis patients admitted January 1942 and studied January 31st, 1943 reveals that only 12.9% had received forty or more treatments. This means that the majority of patients take a few injections and lapse treatment. It means our case holding is pretty low. Case finding is only fair, too, since 9,340 contacts of syphilis cases were reported during 1942. Only 1,847 of these were found infected but the majority of those infected, 1,767, were gotten under treatment.

In an effort to hold more patients to treatment the plan devised by Eagle and Hogan for the treatment of early syphilis is being instituted in some clinics. In one clinic in Montgomery close to 100 patients have graduated after receiving three injections of mapharsen for eight weeks. If this number can be greatly increased for the State as a whole, much ground might be gained in the syphilis control program.

Case holding and case finding, and in fact the whole venereal disease program, are just as successful as the interest of the health officers. In those areas where the health officer is indifferent or disinterested, venereal disease activities reach a low ebb. The whole health department staff becomes as interested or as disinterested as its health officer. In most counties, and especially in those counties containing a military area or those counties contiguous to a military area or those containing defense industrial plants, the venereal disease problem is paramount. Since it is a primary problem, it should be the first for attack on the health program but sometimes it is second, third and sometimes it is even last on the agenda for the local department's activities. This, then, becomes one of our greatest handicaps to overcome.

The gonorrhea control program in Alabama is not one to be proud of, yet it is very slowly forging ahead. Drug-store competition must be stopped. Within the past few weeks two reports on drug stores practicing of gonorrhea have come to our attention. If one or two drug clerks or druggists can be prosecuted this type of competition will wane very fast. Many cases of gonorrhea are completely overlooked by physicians because the index of suspicion is too low. In one town alone one hundred odd female contacts of gonorrhea were not found infected because smears were not properly taken from the cervix. Yet these females were returned to the community to continue spreading gonorrhea. In another community sixteen of the twenty contacts examined were found with gonorrhea. This latter instance has been the exception rather than the rule but it must not continue to be so. Every physician should know how to obtain a proper smear for gonorrhea. The greatest obstacle will be the time it takes to reach them with a demonstration. But the index of suspicion must be raised.

Prostitution should not be the concern of any health department. But since this industry is such a prolific source of spread of venereal disease it is necessary for health departments to take an assisting hand in its control. However, this industry has had a face discoloration in the past few years. It is no longer limited to professional whites but has spread and now there are professional negro prostitutes. The teen-age girl and the clandestine prostitutes now outrank the professional. In the control of prostitution rarely do we need more laws. Enforcement of the existing laws would do wonders.

One of the greatest weapons in control is education. Of course the results are intangible and immeasurable by the general scientific yardsticks. Yet much good can be done. A venereal disease educator attached to the Venereal Disease Division of the State De-

partment of Health has put on prolonged high power campaigns in venereal disease education in several counties. Montgomery is at the beginning of such a campaign. A statewide poster program is under way, modeled to a great degree after the poster campaign of the Southeast Training Center. Each month a one week's refresher course in venereal diseases for physicians is held in Mobile. Bulletins, pamphlets, newspaper articles and radio talks are all part of the program to disseminate educational material. But the public must be enlightened before the venereal diseases will be brought under control. This is your problem.

Virus Pneumonia—In virus pneumonia the onset is usually insidious, the first point of contrast with all other types save only the lobular pneumonia of debilitated subjects. After several days of symptoms quite like those of influenza, malaise, lieadache, chilliness, pharyngitis and dry cough, there may be signs suggestive of pneumonia but they are not likely to be conclusive. One or more areas may present dullness or suppressed breath sounds, though rales are the most frequent early finding. They may be confined to one lobe or may be heard in several lobes simultaneously or ir succession. Bronchial breathing, egophony, and frank dullness may develop. Naturally one would expect such areas to show abnormal x-ray shadows. They may, but they may not. The x-ray shadows may be in other areas. Characteristically they are of a soft, infiltrative type, single or multiple, occurring about the hilus and extending into the lower lung fields. When the apices are involved the picture may resemble tuberculosis. The lesions tend to be patchy. Positive x-ray findings usually antedate the physical signs but the reverse may be true.

There is a peculiar incoordination in the timing of things generally. The fever may have been present for some time before the physical signs appear, and the signs may persist long after the fever has disappeared. Cough may be dry, or, if productive, the sputum may be bloodstreaked, not prune-juice, nor often frankly bloody. Fever may be high but it is remittent. It declines by lysis. It may last from two to seventeen days as a rule, but sometimes much longer, forty or fifty days. In the earlier part of the attack the leucocyte count is not often above normal, but it tends to rise later. There is a notable lack of serious complications. Jaundice, vomiting and diarrhea may occur. The treatment is largely supportive and symptomatic. The sulfonamids are not helpful. The mortality is definitely low.— Smith, Virginia M. Monthly, July '43.

THE WOUNDED MUST NOT DIE

MARGUERITE WALES

American Red Cross Alexandria, Virginia

The wounded must not die! This is the call to the colors which has gone out to registered nurses from the American Red Cross. Thirty-six thousand nurses are needed annually for war duty—30,000 for the Army and 6,000 for the Navy. The number required each month is 3,000 nurses, yet at no time this year has the quota been met.

Appointed by the Surgeon-General of the U. S. Army as the official nurse recruiting agency, the Red Cross is now asking the support of physicians in presenting the appeal to the members of the nursing profession whose presence in the amphitheatre of conflict is essential to the winning of the war. Enrollment is not obligatory. Nurses must be convinced of the need and encouraged to enter service. Doctors by giving their advice and counsel can help nurses to make their decisions.

The size of the Army in World War II is twice that of the last war, and there are six times as many military posts inside the United States and five times as many outside our territorial limits. Yet the increase of nurses is not nearly proportionate. In the last war 23,868 were serving; so far in this war approximately 30,000.

To determine the availability of nurses and the distribution of their services, a recent survey was conducted by the United States Public Health Service. From an estimated 500,000 graduate nurses in the United States, 300,000 replies were received to the questionnaires.

Tabulating the distribution of nurses in 30 representative states, it was found that nurses assigned to the armed forces came from the following groups: institutional, 68 per cent; private duty, 21 per cent; public health, 6 per cent; miscellaneous, 4 per cent; and industrial, 1 per cent.

Using a previous inventory for the same states taken in 1941, a comparison was made between the distribution of nurses in major civilian fields for that year and for 1943. The table follows:

	1941	1943
Institutional	47%	44%
Public Health	10%	11%
Private Duty	60 %	62%
Industrial	3%	7%

The above figures are a significant index of what has happened in the various fields of nursing as affected by the military situation. The loss has been in institutions, while public health, and in a larger measure, industry have gained. Private duty assignments, on the other hand, have remained practically the same. It is from this field primarily that nurses must be released for military duty.

The request for private duty nurses comes to physicians first, and it is they who can help greatly by bringing to the attention of their patients the shortage of nurses in the armed forces. The Red Cross appeals to physicians directly to interpret this need to the public, especially to the nurses themselves and to their patients.

Nursing "as usual" cannot go on and civilian hospitals will be forced to operate under the strain of reduced staffs. Yet inventories reveal that there is a back-log of nurses who have yet to be called upon to fill in the gaps. In 1941 there were 13,753 inactive and available nurses; in 1943 the number has been increased to 23,009. In reverse ratio, the number of inactive nurses listed as not available has been reduced from 42,647 in 1941 to 29,124 in 1943.

Through nurse recruitment stations set up in every city of 25,000 population or more, the wide spread facilities of the Red Cross have been used to carry the appeal to nurses and the public again and again. Now the Red Cross turns to the medical profession for its active cooperation in this all-important campaign.

We cannot be secure on the home front unless our troops have the best nursing care; we cannot be certain of victory unless the wounded have every chance to live.

THE JOURNAL

of the

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TOXIC REACTIONS FOLLOWING SULFONA-MIDE THERAPY

"The value of the sulfonamide drugs in the treatment of many infectious diseases is evidenced by their widespread use. As these drugs have been employed more frequently, physicians have become increasingly aware that certain toxic effects may follow their administration. . . The present paper is an analysis of the toxic reactions encountered in all the patients treated with sulfapyridine, sulfathiazole or sulfadiazine whose treatment was personally observed by one or both of us up to Jan. 1, 1943, either at the Gallinger Municipal Hospital or in private practice. Most of these patients were treated for pneumonia, but a great many were given sulfonamides for other infectious diseases, such as meningitis, endocarditis, gonococcic arthritis and pyelitis. A few of the patients were ambulatory." Thus do Dowling and Lepper¹ open their discussion of this ever-present and highly pertinent subject.

The Washington investigators tell us that "sulfapyridine was administered to 498 patients with toxic effects in 29.9 per cent,

sulfathiazole to 321 patients with toxic effects in 11.8 per cent and sulfadiazine in 660 patients followed by toxic reactions in 7.7 per cent."

The authors hold that "the formation of renal calculi is a serious and sometimes lethal complication of sulfonamide therapy. The mechanism is the crystallization of the sulfonamide or its acetyl derivative in the pelvis of the kidneys, ureters or collecting tubules. The urinary flow is diminished or stops completely, nitrogen retention develops and death may ensue unless the obstruction is removed. If fluid intake and consequently fluid output through the kidneys is sufficient to keep these crystals in solution, calculi will not form. If the fluid intake is insufficient or if the patient is vomiting, has diarrhea, is sweating excessively or is already dehydrated at the start of treatment, the urinary output may become too small to keep the crystals in solution." Renal calculi were found most frequently in patients treated with sulfathiazole.

"Blood dyscrasias occurred less frequently following sulfadiazine and sulfathiazole." And the Washington observers found that vomiting is almost completely absent when sulfadiazine is used, while the chances of producing drug fever, dermatitis, anemia and leukopenia following sulfadiazine therapy are either the same as or less than if other sulfonamides are used. Even with sulfadiazine a few toxic reactions of this sort will nevertheless occur."

And, in the last paragraph, we read that "the optimal therapy for most infectious diseases at the present time involves the use of sulfadiazine, in low doses whenever possible but in high doses when necessary, provided there is careful regulation of fluid intake and output and frequent blood counts and urinalyses, combined with close observation of the patient."

Dowling and Lepper have covered their subject well and in a most convincing manner. And the vast number of patients included in their reports is very impressive. Not many practitioners can point to a series of nearly fifteen hundred patients receiving a certain form of treatment and not every doctor can order blood counts, urinalyses and blood sulfonamide level determinations made at will. But all of us can watch our patients very closely while sulfonamides are

^{1.} Dowling, Harry F., and Lepper, Mark H.: Toxic Reactions Following Therapy with Sulfapyridine, Sulfathiazole and Sulfadiazine, J. A. M. A. 121: 1190 (April 10) 1943.

being given and we can warn the patients to be on the alert for any untoward effects. And all of us will do well to heed the following lines: "We have shown that toxic reactions occur following the use of sulfapyridine, sulfathiazole and sulfadiazine, in descending order of frequency, but that the serious complications are few in number when the patients are watched closely, when the drugs are stopped promptly if reactions occur, and especially when sulfadiazine is used."

COMMITTEE CONTRIBUTIONS

PHYSICIAN-DRUGGIST RELATIONSHIPS

R. E. Cloud, Chairman Ensley

PHARMACISTS AND SELECTIVE SERVICE

There are two recognized schools of pharmacy in Alabama: one at Howard College, Birmingham, and the other at the Alabama Polytechnic Institute, Auburn.

In 1941 the enrollment at Howard was 70 (an average for the preceding five years) and at Auburn 59. In 1943, in contrast, Howard had 29 pharmacy students and Auburn 11.

This year, seven pharmacy students graduate from Howard and three from Auburn.

Under existing Selective Service regulations, pharmacy students must complete one-half of their college work before being eligible for deferment. This, of course, is impossible before reaching the age of eighteen years when all young men must register and are subject to induction into our armed forces.

It would be most regrettable if a serious shortage of pharmacists should occur, and it appears that one is imminent.

MEDICINE AND THE WAR

ARMY SPECIALIZED TRAINING PROGRAM FOR MEDICAL AND PREMEDICAL STUDENTS

At present it is contemplated that training in medicine, dentistry and veterinary medicine will be initiated in all approved schools by July 14. The dates correspond as far as possible to the beginning of a new term except in the schools in which an academic period starts after July 15; in these cases it is asked that the program be initiated at the first of the month.

Baylor University School of Medicine is being omitted until further notice, as is the Harvard School of Dental Medicine (in contradistinction to the Harvard Dental School).

Students in these schools who are called to active duty or are inducted through Selective Service will be assigned with the least possible delay to the unit at the school in which currently enrolled. Preprofessional students who have completed their preparatory training and who have been accepted for matriculation by approved schools are

considered as professional students. They will not be required to accomplish their basic military training at the expense of their professional training.

Other preprofessional students, however, with the exception of those in the Enlisted Reserve Corps and those who enter the Enlisted Reserve Corps through induction prior to the end of their current term which ends prior to June 30, 1943, must receive their basic military training prior to assignment to the Army Specialized Training Program if they are inducted later. Since this three months interruption of preprofessional training may mean incomplete preparation for the vacancy for which accepted by an approved school, full advantage in these cases should be taken of eligibility for deferment under Selective Service. If at the completion of their academic preparation they are inducted, either before or after entering medical school, they will be assigned to the unit at the school by which accepted.

Instructions have been issued which will

place the responsibility of getting the soldier who requires no more premedical training to the unit at the school by which he has been accepted on the service command commander and the dean of the accepting school. Complete information regarding accepted matriculants will enable the local service command to issue the necessary orders to effect timely assignment of enlisted men residing or stationed in his command to the appropriate unit. He will also request the transfer to the unit in his command from other service commands if necessary.

Medical schools have not yet been asked to mortgage vacancies in the freshman classes to the Army Specialized Training Program. It is hoped, however, to negotiate such assurances for late 1944 if premedical training of enlisted men other than those already accepted is to be undertaken. The Army will want 55 per cent of freshmen vacancies, the Navy 25 per cent.

The decision of the Navy that all its medical and dental trainees will receive commutation of quarters and rations complicates the situation, as does the fact that Navy trainees will wear double breasted blue sack suits while the medical student in the Army is clothed in khaki. No one complains that the Navy will not permit its bachelors to acquire a dependent.

The question of quarters and rations is causing great distress among many deans. The present ruling is that Army Specialized Training Program trainees at schools of dentistry, medicine and veterinary medicine will be placed on commutation of rations and quarters when it is manifestly impossible for each institution concerned to provide from its own resources or by lease or contract adequate housing and messing facilities. This puts the entire local problem in the hands of the service command and the dean.

There is a wide variation in textbooks and instruments required. The Army will purchase them through the institution for reissue as required. Tuition is being considered on the basis of nonresident tuition. Various fees such as matriculation and graduation will not be covered: the soldier must pay for his own diploma. Breakage is a government responsibility and, if due to neglect or misconduct, will be deducted from the soldier's pay.

QUESTIONS AND ANSWERS

Q. How may medical or dental students who are now deferred by Selective Service get into the Army Specialized Training Program? A. Students in good standing in accredited medical or dental schools who are now deferred by Selective Service may request reclassification and voluntary induction by their local boards for the purpose of induction and assignment to the Army Specialized Training Program. At the time of induction, such students should have in their possession letters from the deans of their colleges certifying that they are medical or dental students in good standing. If they are inducted in this manner before the end of the current term, they will be transferred to the inactive reserve and not ordered to active duty until the end of the current school year, at which time it is expected that the Army Specialized Training Program will be operative.

Q. How may premedical or predental students who have been accepted for admission to accredited medical or dental schools and who are now deferred by Selective Service get into the Army Specialized Traning Program? A. Prior to the end of the current term not later than July 1, 1943 the procedure will be the same as outlined for medical or dental students. Those who enter the Army through Selective Service after July 1 will be required to take thirteen weeks of basic military training before they are eligible for assignment to the Army Specialized Training Program.

Q. What will be the status of premedical or predental students who are not enlisted reserves by July 1? A. Students not in any Army or Navy Reserve by July 1 may (1) be inducted by Selective Service, as just suggested, in which case they must be prepared to interrupt their college work for basic military training or (2) be continued under deferment by Selective Service until they are medical students, at which time they may be inducted and assigned to an Army Specialized Training Program unit to continue their professional training without the necessity of interruption for basic military training.

Q. Will resignations of Medical Administrative Corps commissions for purposes of induction and assignment to the Army Specialized Training Program be accepted after

May 1? A. No time limit has been set for such resignations or enlistments. They will

be accepted at any time.

Q. When, where, and how will students who resign Medical Administrative Corps commissions enlist? A. Instructions regarding enlistment are being made by the respective service commands. If such instructions have not been received by the deans, inquiry concerning them should be made without delay.

Q. Will resignations of Medical Administrative Corps commissions be approved for

the purpose of enlistment in the Navy College Program? A. No.

Q. Will subsistence allowances be made to medical students on active duty on the Army Specialized Training Program? A. Only in situations in which it is impossible or unpractical to provide group housing and or necessity. No blanket authorization has been issued for the provisions of subsistence allowances. Each request by a medical or dental school for subsistence allowances for its students will be considered as a special case.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D., State Health Officer in Charge

YOUR FEET AND YOUR HEALTH

The war has brought home to millions of Americans both the pleasures and the discomforts of walking. The war-caused shortage of rubber and gasoline turned this nation of riders into a nation of walkers. The muscles of the legs and feet, after being virtual strangers to strain since boyhood or girlhood, have been put back to work in a big way. And many have not been able to stand up under the greatly increased demands being made upon them. Foot trouble has become a major war problem, not only among the men in the armed services but also among the civilian population.

Many individuals and organizations have taken cognizance of this problem and have done whatever they could to solve it. Prominent among them is the National Association of Chiropodists. In an effort to impress its seriousness upon the American people, this organization of specialists in foot health acted as official sponsor of National Foot Health Week, which was observed from April 26 to May 1.

Dr. Elizabeth P. Sealy, secretary of the Alabama Association of Chiropodists, recently called attention to the results of a six-month survey covering 78,000 workers employed in more than 1,000 industrial plants. It revealed, she said, that about half of those 78,000 workers suffered at one time

or another during every month from foot ills. This brought a loss to the war effort estimated at more than 200,000 man-hours a month. Such a loss of time from valuable war production was the same as if more than 4,150 workers had been away from their machines and desks a full 48-hour week out of every month. Expressed another way, it means that approximately 961 workers were absent from duty all the time.

"Among principal foot troubles were arch deformities, foot strain, bunions, calluses, and athlete's foot," Dr. Sealy said, describing the survey. "Hence the urgent necessity for this nation of soldiers and workers to have feet cared for regularly, to get help from chiropodists in order to keep walking and working, to practice foot hygiene."

It is estimated that more than two thousand chiropodists are now serving with the nation's armed forces in various parts of the world. The need for such care is shown by the fact that, according to the annual reports of the Surgeon General of the Army, more than a million and a half man-days were lost between 1920 and 1940 among the relatively small army personnel of peacetime. Foot conditions are also said to have taken high rank as a cause of discharge because of physical disability during those two decades.

Although all of mankind's foot troubles would not end if moderns were to imitate their remote ancestors and start going without shoes, there is no doubt that millions of people would be spared much physical an-

guish if that throw-back to antiquity should actually eventuate.

We do not know exactly when barefootedness began losing favor, and the wearing of shoes became the accepted thing, socially and otherwise. We are told, however, that, like so many other innovations of our own and ancient times, this one was due to a king's desire to escape the discomforts which were the lot of the common people.

According to one story, the ruler of an Eastern nation complained that his bare feet suffered painfully from walking upon the pebbles and other small objects that lay in his pathway whenever he would take his daily walks about his castle grounds and while on trips to various parts of his kingdom. Deciding to do something about the matter, he called in his advisers and ordered them to have coverings placed over all walkways, paths and other areas where he was in the habit of walking. These coverings must be so well placed, he insisted, that the kingly feet would never come into contact with the soil.

At great expense, the orders were carried out. Or at least an effort was made to carry them out. It was soon realized, however, that it would be impossible to prepare in this way for every royal visit over the kingdom. Finally, one of the king's advisers hit upon a plan which offered great promise of success. Instead of trying to cover all the ground upon which the king might walk, why not place the protective covering on the king's feet? Then His Majesty would be able to carry his foot protection with him wherever he might go. So pleased with the king with the suggestion that he rewarded its author richly.

Whether the civilized world began wearing shoes as a result of that king's example or for some other reason is not entirely clear. But, whatever its origin, the boot and shoe manufacturing industry long ago entered the ranks of "big business." In 1939 the 1,070 establishments engaged in the manufacture of footwear (exclusive of rubber footwear) gave employment to an average of 218,028 workers, spent nearly \$388,440,000 for supplies and materials, and had a total output valued at \$734,673,111. This industry in that year ranked in fifth place among all American industries on the basis of the number employed, in fourteenth place on the basis of amount spent for materials and supplies, and

in twelfth place on the basis of the value of its output. With a huge army and navy which must be supplied with all the shoes required for hard service and with greatly increased demands upon shoe leather by the war-walking civilian population, these totals undoubtedly are now much higher, in spite of shoe rationing.

It would be unjust to blame the shoe industry for the many foot ills for which the wearing of shoes is responsible. The victims of those ills have only themselves to blame in most cases, for it is the failure of shoes to fit properly, rather than any defect in the shoes themselves, which results in foot agony. Experts estimate that more than 90 per cent of all foot defects are due to improperly fitting shoes.

"The one great reason for corns, bunions, ingrowing nails, callosities, deformed toes and other complaints is lack of room," we read in a Hygeia article by J. H. Finn. "No shoe will hurt the foot if it fits; to fit it must provide space for every part of the foot. When a corn or other discomfort is felt by the feet the first thing to do is to examine the fit of the shoe at that point. In ninety-

nine cases out of a hundred it will be found

that the shoe is pressing on the foot or on

the toe where the corn or other painful area appears."

Mr. Finn. whose article was published several years ago, selected for particular criticism the style of shoe especially popular among women wearers at that time, the kind tending to come to a point at the toe. This, he insisted, was responsible for much of the foot woe then being endured by the feminine shoe-wearing populace. The continuing popularity of that style of shoe he attributed to what he termed a false impression held by the general public as to what constituted shoe style.

"This idea of making the forward part of the shoe present a slim appearance comes from the notion that a wide toe last is not as stylish as a narrow toe," his article declares. "This is a mistaken idea, for a plain toe shoe, without tip or box at the toe, is the bestlooking shoe of all when well made and constructed of the best material in both bottom and upper. Moreover, it is the only safe shoe to wear, whether for men or for women. Those who will accept this view will eventually have healthy feet. If the feet are sound and free from blemish they will remain so just as long as wide and roomy shoes are worn."

Mr. Finn was not alone in heaping criticism upon the slim-toed shoe as a major contributor to human suffering. Just about the time his article reached its readers Dr. Thomas H. Blake, of Jackson, Mississippi, read a paper at the annual meeting of the Mississippi State Medical Association in which he said:

"It is a very definite fact that the people who have the best feet, the most pain-free and useful feet, are those who allow themselves foot freedom. Our present method of buying shoes is very haphazard. A shoe salesman is not trained in feet, nor does he know the mechanical principle involved. He simply knows about the foot and about the shoe what the manufacturer wants him to know. He has no impartial training to explain to him the various reasons for the particular types of shoes."

Fortunately for foot health, women's styles have changed considerably since these experts voiced their protests. The shoes which milady gets in exchange for her money and her three ration coupons a year are built along more practical and certainly more comfortable lines. The "plain toe shoe, without tip or box at the toe," has been accepted in the best social circles, and there is general agreement with Mr. Finn that this style does not sacrifice beauty to gain comfort. The open toe survived the "kidding" to which it was subjected when first introduced and is now widely popular.

Less successful has been the campaign, in the interest of foot health, against the feminine fondness for high heels, which makes women particularly great sufferers from shoe ills. Unfortunately, when a critic of women's styles said several years ago that "many heels are so high that they make their wearers go around sliding downhill at a 45-degree angle," he was complaining of a condition that still exists. Women wearing that kind of shoe force practically all the weight of their bodies onto the ball of the foot, strain is placed upon the metatarsal arch, the toes are wedged into the shoe, and an important tendon at the back of the foot suffers contracture.

Progress is being made even here, however. While the show-windows display many shoes with heels that appear to be vieing with each other in height, they also contain shoes that have almost no heels at all, permitting the foot to rest in the position nature intended. It is to be hoped that this style of shoe will win increasing favor and, equally important, that its popularity will be permanent.

In these strenuous war times especially, an effort should be made to be comfortable, for discomfort and efficiency simply do not go together. Whether at work or at play, all of us should try to avoid unnecessary foot discomfort by giving our feet the attention and care they deserve.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

APRIL 1943

Examinations for diphtheria bacilli	
and Vincent's	1,103
Agglutination tests (typhoid, Brill's,	,
undulant fever)	510
Typhoid cultures (blood, feces and urine)	420
Examinations for malaria	898
Examinations for intestinal parasites	1,972
Serologic tests for syphilis (blood	,
and spinal fluid) 4	7,077
Darkfield examinations	
Examinations for gonococci	2,674
Examinations for tubercle bacilli	1,952
Examinations for Negri bodies	
(microscopic)	62
Water examinations (bacteriologic)	902
	2,090
Pneumococcus typing	4
Miscellaneous	293

MAY 1943

Examinations for diphtheria bacilli	
and Vincent's	705
Agglutination tests, (typhoid, Brill's,	
undulant fever)	721
Typhoid cultures (blood, feces and urine)	693
Examinations for malaria	1,429
Examinations for intestinal parasites	1,878
Serologic tests for syphilis (blood and	
	50,199
Darkfield examinations	
Examinations for gonococci	
Examinations for tubercle bacilli	1,666
Examinations for Negri bodies	
(microscopic)	57
Water examinations (bacteriologic)	924
Milk examinations	2,209
Pneumococcus typing	7
Miscellaneous	243

Totals 63,889

Totals 59,985

PNEUMOCOCCUS TYPING DISCONTINUED

The treatment of lobar pneumonia with type specific serum became possible only after Cooper's identification of the numerous serologic types of the pneumococcus. 1937 a discussion of the serum therapy of pneumonia and a demonstration of the method for collection of sputum specimens, together with a demonstration of the method of laboratory examination, was presented at a series of meetings with the physicians of the State under the auspices of the Committee on Postgraduate Study of the State Medical Association. Following these meetings, the Neufeld method of pneumococcus typing was introduced as a routine technic in all of the laboratories of the State Health Department. In 1937, 82 sputa were examined; in 1938, 331; 1939, 794; 1940, 564; 1941, 373; and in 1942, 114. The reason for this marked decrease in calls for this type of examination is found, of course, in the introduction and very general use of the sulfa drugs. While it is still true that there are certain cases in which serum alone may have to be used, or in which serum will be used in conjunction with a sulfa product, these cases will necessarily be limited to those who are in position to pay for the serum and would involve individuals likewise able to pay for the typing in a hospital or commercial laboratory. It seems, therefore, that inasmuch as the State Department of Health makes no provision for free distribution of therapeutic serum, the typing of the pneumococcus could be discontinued without hardship to any one. With the agreement of the State Health Officer and the Director of the Bureau of Preventable Diseases, this service is no longer available in the State Laboratories.

BUREAU OF PREVENTABLE DISEASES D. G. Gill, M. D., Director

TYPHOID CARRIERS AND TYPHOID FEVER

For the period January 1, 1943 through June 12, 1943 there were reported to the State Health Department only twenty-five cases of typhoid fever. This figure is almost unbelievable in view of the record of this State not so many years ago. True, the typhoid season in Alabama is primarily July, August and September but this low early

incidence would not lead one to expect a high season, barring a breakdown some place in water supplies or sewage disposal.

Alabama has been fortunate in escaping major water-borne epidemics and most of the cases of typhoid in recent years have been due to contact with carriers. With a smaller number of cases it is possible to investigate more thoroughly those cases that do occur and such investigation should include a search for carriers among the contacts. Such an investigation recently led straight to a woman who has been involved in previous typhoid cases. Briefly her history reveals an undiagnosed illness of 8-9 weeks in 1937 while away visiting. Following her return home five cases of typhoid occurred in her immediate family. Two more occurred in the family of a son visited. At this time cultures were positive for typhoid. Four years later another case of typhoid developed in a visitor to this lady's home. Cultures were again positive. The ninth case attributed to this woman occurred this year -again in a visitor to her home. Cultures are still positive.

Fortunately all carriers do not do as much damage as this particular individual has done. There will usually be a carrier in the background, however, whenever an isolated case of typhoid occurs and diligent search may reveal the individual. Regulations prohibit carriers from engaging in food-handling pursuits or in handling milk, but, within the household, education must be relied upon to protect the rest of the family.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

THE EMERGENCY MATERNITY AND INFANT CARE PROGRAM

On March 18, 1943 the United States Congress passed the First Deficiency Appropriation Act and funds were allocated to the states to provide medical and hospital obstetric and pediatric care for wives and infants of enlisted men in the military services. This enables Alabama to resume the program which was in effect but was suspended late in January 1943 because the money then allotted to the State was spent

or pledged. Approximately 200 cases had been authorized.

The program is again in effect, and this type of care may be authorized for eligible dependents of service men. The only eligibility requirements are:

(1) That the patient must be the wife or infant child (under one year old) of an enlisted man below the grade of staff sergeant. This excludes dependents of commissioned officers; master, major, first, technical, staff, and platoon sergeants; chief, first and second class petty officers.

(2) That similar service is not available at an Army or Navy hospital.

Physicians who are willing to participate in the program are paid \$35.00 for complete maternity care, which includes a minimum of five antepartum visits, delivery care and postpartum care with the final examination at the end of the six weeks' postpartum period. If the minimum amount of antepartum care is not given, the physician may be paid \$25.00. Payments are made upon the receipt of the completed maternity case record (on the form supplied by the State Health Department) and the statement of medical services.

Only those physicians who are graduates of approved medical schools may be authorized to care for these cases. Exception may be made in the case of a physician who is not a graduate of an approved medical school provided he has had postgraduate training in obstetrics or pediatrics, as the case may be.

Only those hospitals may be used in this program which are approved by the American College of Surgeons or are approved by the State Health Department (by the obstetric consultant) as meeting the minimal requirements for maternity care as determined by the United States Children's Bureau.

Some of these minimal requirements are:

- (1) Patients must be cared for only in a part of the hospital completely separated from any section in which patients with communicable diseases or septic conditions are cared for.
- (2) Rooms or wards shall provide average space equal to at least 60 square feet per patient.
- (3) Running water shall be conveniently available to every room in which maternity cases or newborn infants are cared for.

- (4) There shall be a properly equipped delivery room. If there is no delivery room, separate from the operating room, patients shall be delivered in their own rooms except in cases of cesarean section.
- (5) There shall be always available sterile sets for intravenous administration of fluids, and facilities for oxygen administration to infants.
- (6) Facilities for washing or disinfecting the hands shall be provided in the nursery.
- (7) If infants are not kept in the room with their mothers, a separate nursery shall be provided and used for no other purpose than the care of the newborn infants. Each infant shall have a separate bassinet and these individual bassinets must be separated by at least 6 inches. Nurseries shall provide an average of at least 16 square feet of floor space per infant.
- (8) There shall be provided for premature infants at least one heated bassinet for each 20 bassinets for full term infants or any fraction thereof.
- (9) There shall always be available a room in which an infant who has or is suspected of having an infection may be isolated.
- (10) A graduate registered nurse shall be responsible at all times for the nursing care of maternity patients and newborn infants.
- (11) There shall be space and equipment for preparation of milk mixtures (formulas) using aseptic technique and for their sterilization and refrigeration.

No doubt many of our hospitals do not now meet these requirements. It seems, therefore, that only home care can be authorized for many of the patients requesting this service.

Interested hospitals are requested to submit certified financial statements showing the per diem per patient cost for ward care. This is calculated in a manner described in a memorandum from the Children's Bureau and is available on request. These financial statements will be submitted for approval of the rates shown.

For a time at least, there cannot be many authorizations for hospital care.

Physician's fees for pediatric cases may be paid on a visit basis: For the first visit at home—\$3.00, at office or hospital—\$2.00; for all additional visits at home—\$2.00, at office or hospital—\$1.00.

These fees are payable provided that the maximum amount paid shall not exceed \$10.00 for the first week, nor exceed \$5.00 for the second week. First visits refer to the first visit made during the first year of the infant's life.

These fees are paid on the receipt of the bill with the completed case record.

Payments to hospitals may be made at rates approved by the State Health Department and the Children's Bureau. The rate must be a flat per diem per patient rate for ward care. This rate is to include all costs: delivery room, anesthetic, care of the newborn infant, usual drugs and usual laboratory tests. Extra payments may be made for transfusions, expensive drugs and expensive diagnostic procedures. Payments to hospitals may be made for the day of admission or the day of discharge but not for both. It is hoped that maternity cases may be kept for a period of ten days. Initial authorization is made for not more than fourteen days, but this time may be renewed after a review of the case by the Director of the Bureau of Maternal and Child Health or by the staff consultant.

Authorizations may be given for ward care only, and physicians and hospitals agree not to charge or accept any additional sum from the patient or the family of the patient. Nor may a patient pay a part of the bill. The entire bill must be paid out of the allotted funds. Payments may not be made for services rendered before official authorization is granted. Exception is made in the case of a medical emergency when it is expected that the authorization will be requested within twenty-hour hours. Failure of the patient to apply or failure on the part of the physician to send the application until just before delivery is not considered a medical emergency.

Consultations and major obstetric surgery may be authorized. The consultant must be qualified or eligible for qualification by his National Board or have limited his practice to his specialty for a period of six years. Fees will be established later for non-obstetric and pediatric surgery.

The procedure: The patient (or parent) fills out the first section of the request for care and takes it to her physician. If he agrees to the terms, the physician fills out the second section and sends it to the Direc-

tor of the Bureau of Maternal and Child Health of the State Department of Health. The Director will pass upon the application and advise the physician and the patient of the disposition of the request. The county health officer is advised of the cases so that nursing supervision may be given. If the application is approved, official authorization is sent to the patient, the physician and the hospital.

Application forms have been sent to all county health officers, and it is hoped they will be available, also, in county welfare de-

partments.

BUREAU OF SANITATION T. H. Milford, M. S. in S. E., Director HOUSE-FLIES AND THEIR CONTROL

Contributed by
W. H. Gilmore
Senior Public Health Engineer

Requests are received from time to time by the State Health Department for information regarding flies and recommended control methods. This paper has been prepared in order that these persons may be given some information on the subject. This is only a resume' and if more information is desired the names of other references will be furnished upon request.

The habits and characteristics of the house-fly (Musca domestica) are such that it becomes a potential agent for the transmission of intestinal and certain other diseases. Some of the diseases which are flyborne, or suspected of being fly-borne, are typhoid fever, bacillary dysentery, and probably poliomyelitis. The common housefly does not bite but is dangerous because it breeds, visits, or feeds upon both food and excreta. Since it does not bite the transmission of germs is mechanical. Flies may transfer the infection on their feet, legs, mouth parts, and especially with their excreta and vomit. Just as in the case of other disease-transmitting insects and rodents, remedies and preventive measures depend upon the peculiarities of the life history.

BREEDING PLACES

The house-fly's breeding place must be provided with moisture, warmth, and food for the larvae. The breeding material must

not be too wet nor too dry. The temperature must be less than 115°F, and food for the larvae must be in a finely divided or soluble form. Since a small amount of acid will inhibit the growth of the larvae, the breeding material must be alkaline. The most preferable breeding places for the house-fly is loosely packed or small accumulations of horse manure. Next in importance, other factors being equal, are human excreta, fermenting vegetables and putrifying animal matter, rubbish dumps containing organic wastes, and organic materials of various kinds. The house-fly does not breed in carcasses nor in garbage containing much animal matter.

Large numbers of people believe that the house-fly breeds in pit privies. The sewagefly (physcoda) will breed in active pits where water is standing. The soldier-fly will breed in active pits. The green and blue bottle flies (which breed normally in fresh or decayed flesh) will enter pits. It is conceivable that there are some pits where they might breed but so far as is known they have never been found breeding in a normal active pit. None of these flies has any public health significance by food contamination. There is left the domestic house-fly. This fly shuns darkness and enters pits sparingly. It does not breed in normal pits, if in any. There is a possibility of this fly entering the riser or privy stool and receiving contamination from a soiled riser but the facts are that whether the lids are, or are not, kept closed pit privies reduce typhoid and dysentery and hence flies cannot have a great influence on disease transmission from pit privy sources.

No concern should be felt about flies breeding in pit privies except that people object to the large soldier-fly larvae which work the pit material by the hundreds. Where people do object to this, a third of a cup of Paris green sprinkled in the pit will kill that crop.

LIFE HISTORY

The Egg Stage: The eggs of a house-fly measure between 1/32 and 3/32 of an inch in length and are oval, white and glistening. They are deposited in clusters or masses in one of the above-mentioned breeding places. Usually the female fly will lay from 100 to 160 eggs at one time and may lay from two to four batches during a lifetime. The length

of the egg stage is from six to twelve hours under suitable conditions. This length of time may vary widely with the temperature and other conditions.

Larva Stage: The mature house-fly larva (maggot) is about 14/32 of an inch in length and is a round, grayish, or creamy white segmented, worm-like creature. The larvae are highly motile and may burrow into the breeding place or soft ground. They feed upon the vegetable organic matter which surrounds them and grow rapidly. Under average conditions they will reach the pupa stage in four to five days.

Pupa Stage: The pupa is in a hard brown case—the puparium. The pupa is dark in color and about ¼ of an inch in length. During this stage it is immobile and does not feed. In from three to ten days under average conditions the pupa case opens and the adult fly emerges, full grown.

Adult Stage: Upon emergence from the purparium the adult fly crawls upward through the loose soil, manure or other material to the surface. In a short time the wings are hardened and the fly is ready for a season of activity covering several weeks. Experimentally, house-flies have been kept alive for as long as seventy days. However, the usual life span is about one month. The female house-fly reaches sexual maturity and may begin laying in from $2\frac{1}{2}$ to 20 days. There may be, therefore, many generations in a summer. If each female lays only 120 eggs (forty to fifty batches may be laid) there is a possibility of countless millions of flies coming from a single fly in a single season. For example, in forty days with only one-half survival a single fly might produce four million descendants.

The house-fly does not grow after hatching from the pupa. They usually average about one-fourth of an inch in length. The small flies sometimes seen around buildings and which closely resemble house-flies are not, as is frequently thought to be the case, partially grown house-flies. They are known as the "lesser house-fly" or the "latrine-fly." The procedures used to control the house-fly are also effective against these flies.

The biting-fly (Stomoxys calcitrans) which is frequently mistaken for the housefly is a stable-fly. They usually breed in straw but will breed in stables where horse manure is mixed with straw. They do not

frequent privies and are therefore not a factor in the transmission of intestinal diseases to man.

Usually the house-fly does not migrate far from the breeding place provided food and places for oviposition are present. Normally under these conditions the flight range will not exceed 1,000 yards. However, unless food and breeding places are present the flies may travel for miles. They have been known to fly as far as eight miles from the point of liberation in a single day. In one experiment the house-fly travelled thirteen miles from the point of release.

INTERESTING FACTS REGARDING FLIES AND BACTERIA

Many experiments have been conducted to determine the bacterial population of a fly. It has been found that the number of bacteria on a single fly may range from a few hundred to 25,000,000. The bacteria count for the intestinal tract of a single fly has been found to be as high as 28,000,000. These bacteria may vary as to type, depending upon the breeding places or the places which have been visited by the fly since reaching adulthood. The number of bacteria on a fly has been determined by coaxing him into a sterile bottle in which he drowned and bacterial counts were then determined from the water. This is comparable with what would happen when a fly happens to fall into a bucket of milk.

FEEDING HABITS

The proboscis or bill of the house-fly is not like that of the blood-sucking insects. It is adopted for the sucking or absorption of liquids. Only very small particles of food can be ingested. Such dry foods as sugar are liquefied by regurgitated liquids prior to ingestion. The fly is a persistent and greedy feeder. The regurgitation of ingested food or vomit drop and the excretion of feces occur at frequent intervals while feeding and are important factors in the contamination of food with pathogenic organisms derived from human excreta.

CONTROL MEASURES

Just as in the control of other insects and rodents there are two classifications under which the controls may be classified. These are permanent and temporary. Under the classification of permanent control comes the elimination of breeding places. The second classification includes such control measures as screening, bed nets, fly trappings, poisoning and swatting.

(a) Eliminate the breeding material or establish conditions which prevent oviposition or inhibit development of larvae. The successful suppression of the house-fly must be accomplished by striking at the breeding places. Since the preferable breeding places are horse and other animal manure, human excreta and fermented vegetable waste, the problem resolves itself simply into a matter of cleanliness. One neglected horse or mule barn will furnish a plague of flies for the entire community. Stables, barnyards and all enclosures where animals are kept should be cleaned daily and the manure placed in appropriate bins. During the warm weather it should be removed frequently to the fields or disposed of by burial or burning. If manure cannot be removed promptly it should be kept covered in a dark, carefully screened place which discourages the visitation and breeding of flies.

Larvae may be destroyed. The best results are obtained by the use of borax (sodium borate). In order to kill fly larvae or maggots, apply approximately six-tenths of a pound of borax to every ten cubic feet of manure immediately upon its removal from the barn. Borax is particularly effective when sprinkled with water. Each addition of fresh manure should be treated. Borax does not appear to damage the fertilizer value of manure when applied at the above rate.

(b) Build and maintain a standard pit privy or install another approved method of waste disposal.

(c) Keep garbage in watertight cans with tight covers and remove frequently in warm weather. If the garbage is not used for animal or chicken feed, it should, with all other household wastes, be burned or buried every day. Do not let such material accumulate in unsightly heaps about the yard.

(d) Screen all outside openings of the house. The screen wire used should not be less than 16 mesh wire. Keep flies away from food. If a reminder is needed, remember where flies come from.

(e) Protect the baby from the fly, no matter what the cost. Remember a baby cannot protect itself.

(f) Clean up! Screen up! Do not be content to live surrounded by filth and pestered by flies.

Other control measures which tend to lower the fly population are fly spray, fly powder, fly paper, fly poisoning, fumigants and swatters. These measures may be used only within the screened house with any appreciable degree of success.

(g) Use fly traps as supplements to radical control measures which strike at the breeding places. Fly traps work most effi-

ciently in vicinities removed from manure, kitchen waste and other refuse which tend to compete with the bait. The basic principle on which all fly traps are built is the principle of easy entrance and difficult exit. Additional material regarding fly traps and their operation may be secured by writing the U. S. Department of Agriculture for "Farmers' Bulletin, No. 734."

CURRENT STATISTICS *PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA 1943

		Exp	stimated ectancy				stimated bectancy
	March	April	April		April	May	May
Typhoid	. 4	4	7	Typhoid	4	6	14
Typhus	7	25	10	Typhus	25	29	15
Malaria	49	55	125	Malaria	55	243	266
Smallpox	1	1	2	Smallpox	. 1	4	3
Measles	731	969	788	Measles	969	676	734
Scarlet fever	73	86	41	Scarlet fever	86	34	28
Whooping cough	141	272	208	Whooping cough	272	339	197
Diphtheria	34	19	36	Diphtheria	19	16	30
Influenza	788	744	492	Influenza	744	521	180
Mumps	266	282	221	Mumps	282	234	184
Poliomyelitis	2	3	2	Poliomyelitis	_ 3	1	2
Encephalitis		0	2	Encephalitis	0	2	2
Chickenpox	155	172	196	Chickenpox	172	148	129
Tetanus	0	5	5	Tetanus	5	2	3
Tuberculosis		250	264	Tuberculosis	250	289	312
Pellagra		8	20	Pellagra	8	7	31
Meningitis		42	14	Meningitis	42	39	9
Pneumonia	682	506	471	Pneumonia .	506	330	287
Syphilis	1655	1768	1365	Syphilis	1768	1772	1367
Chancroid	23	31	9	Chancroid	31	35	10
Gonorrhea	637	552	342	Gonorrhea	552	682	339
Ophthalmia neonatorum	0	1	1	Ophthalmia neonatorum	1	4	2
Trachoma	0	0	0	Trachoma	0	0	0
Tularemia	2	0	2	Tularemia	_ 0	2	3
Undulant fever	3	4	2	Undulant fever	_ 4	12	6
Dengue	0	0	0	Dengue	0	0	0
Amcbic dysentery	1 10	105	0	Amebic dysentery	1	150	0
Cancer	143	135	0	Cancer	135	153	0
Rabies—Human cases Positive animal heads	21	17	0	Rabies—Human cases Positive animal heads	17	0 10	0

 ${}^{\bullet}\text{As}$ reported by physicians and including deaths not reported as cases.

†The estimated expectancy represents the median incidence of the past nine years.

BOOK ABSTRACTS AND REVIEWS

Principles and Practice of War Surgery. By J. Trueta, M. D., formerly Director of Surgery, General Hospital of Catalonia, University of Barcelona; Assistant Surgeon (E. M. S.) Wingfield Morris Orth. Hosp., Oxford; Acting Surgeon-in-Charge, Accident Scrvice, Radcliffe Infirmary, Oxford. Cloth. Price, §6.50. Pp. 441, with 144 illustrations. St. Louis: The C. V. Mosby Company, 1943.

This timely monograph will be well accepted by the civilian surgeon as well as the war surgeon because it brings forth a new or rather renewed mode of wound management. The book is devoted almost entirely to the now well popularized Trueta technique of plaster-of-paris encasement. Undoubtedly Trueta's method is best administered by Trueta but nevertheless there are certain basic principles that if followed rigidly will bear good results.

Trueta himself is an interesting personality in

that he is a Spaniard who gathered valuable war experience in the German-Italian proving grounds, or otherwise so-called Spanish Civil War. He later went to England where further experience was accumulated from the severe bombing raid casualties. Much valuable time must have been given by this surgeon to write this excellent monograph because it is clearly shown throughout its pages that there was a great deal of literature scanned for its historical, theoretical and practical references. The Trueta technique is not a new one nor is it a forgotten one and Trueta himself gives adequate credit to his predecessors, notably Winnet Orr.

The book has for its foundation the administration of the five basic principles of the plaster encasement technique which are: (1) prompt surgical treatment, (2) thorough cleansing of the wound, (3) excision of the wound or more popularly known as debridement, (4) provision for drainage and (5) immobilization in plaster of paris cast. The first four points are just plain surgical axioms of good surgical practice and the fifth is the reason for the book being written. Immobilization to secure physiologic rest of an injured part is not a new idea but the complete insurance of immobilization by plaster encasement forces the idea a little further.

The book is written in a masterly style from the teaching viewpoint and is amply illustrated, both by photographs and by semidiagrammatic drawings. The chapters on infection, shock, blood transfusions and chemotherapy differ little from the accepted methods but make good "refresher" reading. Trueta's discussion of skin grafting is of particular interest and should be carefully read for he attempts to bring back into practice the old Corachan method of skin grafting which is simple and highly reliable. The percentage of "takes" with this type of grafting is highly gratifying and leaves the donor site in good condition with primary closure in contradistinction to many of the other methods which leave the donor site nearly as unsightly as the recipient site.

There are many valuable hints scattered throughout the book which would be of value to any surgeon if properly understood and applied. This book would be of much value to the beginning surgeon because of its plain detailed style of presentation.

Philip K. Burwell.

Endoscopic Prostatic Surgery. By Roger W. Barnes, M. S., M. D., F. A. C. S., Professor of Clinical Urology, College of Medical Evangelists; Chief of Urology Service, White Memorial Hospital and Out-Patient Clinic; Senior Attending Surgeon, Los Angeles County Hospital; Consulting Urologist, Glendale Sanitarium Hospital, Clendale; Harriman Jones Clinic Hospital, Long Beach; Southern Pacific Company, Associated Oil Company, Los Angeles Railway Company and Los Angeles County Farm. Cloth. Price, \$6.00. Pp. 232, with 104 illustrations. St. Louis: C. V. Mosby Company, 1943.

This is one of the first books to be published on endoscopic prostatic surgery, and it is very timely since one would have to search the literature and special journals to obtain even a portion of the substance contained in this work. The book contains 232 pages and 104 illustrations. It is easy to read and interesting throughout. It is compact and complete.

In the beginning Dr. Barnes discusses the anatomy and physiology of the prostate and surrounding structures encountered in endoscopic prostatic surgery. Later, the electrotome and the cutting current are discussed, also the technique in the use of the McCarthy resectoscope. The preand postoperative care of the patient is taken up in detail. The immediate and late complications are dealt with adequately. In the end the results to be expected and the sequelae are discussed.

This book will be of value to every one doing endoscopic prostatic surgery.

T. S. Boozer.

A Guide to Practical Nutrition. A Series of Articles on Nutrition, Sponsored by the Committee on Nutrition and Deficiency Diseases of The Philadelphia County Medical Society: With an Induction by Morris Fishbein, M. D., Editor of the Journal of the American Medical Association. Paper. Pp. 98. Philadelphia: The Philadelphia County Medical Society, 1943.

According to the introductory comment, the authors "present this manual to the medical profession in order to increase the practicing physician's interest in the new knowledge of nutrition. They trust in doing so they may to a degree succeed in educating the physician to the importance of proper nutrition as a means to improve health."

This manual emphasizes the preeminent position of nutrition in America's war effort, as well as in many fields of medical practice. It should be valuable to all physicians, since the contents are concise, carefully prepared and thoroughly sound.

The vitamin charts, carbohydrate content of fruits and vegetables, and the table of food composition in the appendix will be most useful to physicians as well as anyone interested in improving dietary habits.

Dr. Fishbein makes this statement in the introduction: "Until adequate knowledge of deficiency diseases and scientific nutrition become the common property of the medical profession, the utmost that can be realized in this field will not be accomplished."

Amanda Tucker.

Evaluation of Exhibits—The increased interest in exhibits and their use for health education warrants an evalution of their effectiveness if expenditures for exhibits are to be justified. An attempt at such an evaluation of the health exhibits at the New York World's Fair was undertaken in 1939. This paper reports the reliability of ratings as one technic of measuring the value of the exhibits.

In the study reported, 271 professional workers comprising public health personnel, educators, students of education or medicine, and professional exhibitors; and 18,449 lay spectators rated 26 major exhibits. The professional workers designated the three "best" and the three "worst," and the lay raters indicated the three "liked most" and the three "liked least."

On only one of 26 exhibits did as many as half the professional raters agree it was among the three best exhibits shown, and even that one was rated among the worst by 11 of the 271 judges. Only 6 others were rated similarly by as many as one-fifth of the raters. The ratings indicate that the raters' criteria were not consistently applied by the 271 individuals. There was no closer agreement when the ratings were tabulated by homogeneous professional groups (public health, educator, student, or exhibitor) than when they were by the total.

On only 8 of the 26 exhibits did as many as one-fifth of the lay raters express agreement in preferences. Apparently, judgments by laymen are also unreliable as criteria to judge the effectiveness of exhibits.

Consistent with the disagreements found in the professional and lay groups were the differences between the two groups of judges. The raters who normally construct, evaluate, and use exhibits did not agree with the lay public for whom they make exhibits.—Calver et al., J. A. P. H. A., June '43.

THE ROSTER OF THE ASSOCIATION

THE ANNUAL ROSTER OF THE Medical Association OF THE STATE OF ALABAMA 1943

ROSTER BY COUNTY SOCIETIES

ABBREVIATIONS AND SYMBOLS

- (S.) indicates that the physician is in the service of his country.
- mc Ala. 06 indicates school and year of graduation.
- cb 94 indicates licensure by county board of medical examiners in county where located, and year licensed.
- cb Butler 94 indicates county board of medical examiners granting license, and year licensed.
- sb 10 indicates licensure by the State Board of Medical Examiners, and year licensed.
- recip. Miss. 27 indicates licensure by reciprocity, the reciprocating state, and year reciprocity was granted.
- NBE indicates licensure by reciprocity with the National Board of Medical Examiners.
- * indicates that the Health Officer is serving two counties, and footnote gives county where credentials may be found.

(1) AUTAUGA COUNTY Montgomery 1874

President—E. M. Thomas	Prattville
Vice-President—R. G. Shanks	Autaugaville
Secretary-Treasurer—G. E. Newton	Prattville
County Health Officer-G. E. Newton	Prattville

Censors- James Tankersley, Chairman, Prattville; R. M. Golson, Prattville; E. M. Thomas, Prattville; R. G. Shanks, Autaugaville; J. E. Wilkinson, Prattville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Golson, Robert Marion, mc Tenn. 91, cb 94, Prattville. Newton, George E., mc Tenn. 35, sb 36, Prattville. Shanks, Rufus George, mc Memphis Hosp. 01, cb Butler 01, Autaugaville.

Tankersley, James, mc Ala. 06, cb Crenshaw 06, Prattville. Taylor, George Malcolm, mc Atlanta P. & S. 05, cb Montgomery 05, Prattville.

Thomas, Eugene Marvin, mc P. & S. Baltimore 07, cb 07, Prattville.

Wilkinson, John Edward, Jr., mc Univ. South 00, cb 00, Prattville.

Total 7

PHYSICIANS NOT MEMBERS

None

(2) BALDWIN COUNTY Anniston 1886

President-H. C. Jordan	Robertsdalc
Vice-President-E. H. Planck	Foley
Secretary-Treasurer—W. B. Nelson	Bay Minette
County Health Officer-W. B. Nelson	Bay Minette

Censors-J. C. McLeod, Chairman, Bay Minette; C. G. Godard, Fairhope; P. M. Hodgson, Stockton; E. H. Planck, Foley; R. A. Hail, Robertsdale.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Bryars, J. Floyd, mc Ala. 05, cb 05, Bay Minette. Godard, Claud George, mc Ala. 14, sb 14, Fairhope. Hail, R. A., mc Tenn. 94, cb 01, Robertsdale.

Hodgson, Philip Morton, mc Atlanta 89, cb Monroe 89, Stockton. Holmes, William Coghlan, mc Tulane 24, recip. La. 26,

Foley, (S.) Jordan, Henry C., mc LSU 34, recip. La. 37, Robertsdale. Jordan, Henry W., mc Memphis Hosp. 12, sb 12, Roberts-

dale. McLeod, John Calvin, mc Ala. 00, cb Coosa 00, Bay Minette.

Nelson, William Bruce, mc Tulane 37, recip. La. 39, Bay Minette.

Planck, Ernest H., Jr., mc Tulane 37, recip. La. 38, Foley. Skinner, Percy B., mc Ala. 05, cb Conecuh 05, Fairhope. Total 11

PHYSICIANS NOT MEMBERS

McKinnon, Mack L., mc Tenn. 10, recip. Miss 30, Foley. Moore, Ernest Abraham, mc Louisville 06, cb Hale 06, Bay Minette.

Newman, Leonce D., mc Tulane 33, recip. La. 39, Bay Minette.

Stanley, Robert Hendricks, mc Ala. 94, cb Butler 94, Foley.

Van Iderstine, Reginald, mc Chicago 06, cb 07, Daphne. Total 5

(3) BARBOUR COUNTY Eufaula 1878

President—R. O. Norton	Louisville
Vice-President-J. B. Adams	Eufaula
Secretary-Treasurer—G. O. Wallace	Clayton
County Health Officer-G. O. Wallace	Clayton

Censors-J. S. Tillman, Chairman, Clio; R. O. Norton, Louisville; James Reid, Clayton; J. B. Adams, Eufaula; P. P. Salter, Eufaula.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Adams, John Ball, mc Vanderbilt 30, sb 30, Eufaula. Bennett, Clarence R., mc Emory 28, recip. Ga. 29, Eufaula. Britt, Walter Stratton, Jr., mc Cornell 31, sb 31, Eufaula. (S.)

Clark, Hugh G., mc Texas 34, recip. Texas 37, Clayton. (S.) Comer, Edward T., mc Vanderbilt 35, sb 35, Eufaula. (S.) McInnis, William R., mc Memphis Hosp. 96, cb 99, Clio. McLaughlin, James Daniel, mc Ala. 10, sb 10, Blue Springs.

Norton, Robert Olon, mc Ala. 11, sb 11, Louisville. Patterson, Robert B., mc P. & S. Atlanta 99, cb 99, Louis-

Reid, James, mc Ala. 12, sb 12, Clayton. Rodriguez, Jose M., mc Ark. 26, recip. La. 34, Louisville. (S.)

Salter, Paul Pullen, mc Tulane 16, sb 16, Eufaula. Tillman, John S., mc Grant 07, cb 07, Clio. Wallace, George Oscar, mc Ala. 91, cb 91, Clayton. White, Robert Lee, mc Ala. 98, sb 98, Mt. Andrew.

Total 15

PHYSICIANS NOT MEMBERS

McCoo, Thomas V. (col.), mc Leonard 06, cb 07, Eufaula. Total 1

(4) BIBB COUNTY Birmingham 1887

President-L. E. Peacock	W. Blocton
Vice-President-C. F. Krout	Brent
Secretary-T. E. Schoolar	Centerville
Treasurer—S. C. Meigs	Centerville
County Health Officer-J. R. Long*	Centerville

Censors-S. C. Meigs, Chairman, Centerville; C. F. Krout, Brent; L. E. Peacock, West Blocton; T. E. Schoolar, Centerville; W. J. B. Owings, Brent.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Crowder, John W., mc Univ. South. 04, cb 05, Belle Ellen. Jones, Clyde W., mc Ala. 11, sb 11, West Blocton.

Krout, Charles F., mc Ala. 95, cb 95, Brent.

Meeks, Alfred A., mc Ala. 14, sb 14, Marvel. Meigs, Stephen C., mc Ala. 02, cb 02, Centerville.

Montgomery, J. Ethel (Mrs. J. W. Crowder), mc Univ.

Minn. 28, recip. Minn. 32, Belle Ellen.

Nicholson, Cooper, mc Ala. 13, sb 19, Centerville.

Nicholson, William John, mc Vanderbilt 84, cb 86, Centerville.

Owings, William J. B., mc Tulane 32, sb 32, Brent.

Peacock, Lovic Edward, mc Ala. 92, cb Marengo 92, West

Schoolar, Thornly Edward, mc Vanderbilt 92, cb 92, Centerville.

Stinson, Willie E., mc Emory 31, sb 31, Piper.

Tucker, John S., mc Ala. 06, cb Marengo 06, Dixiana (Jefferson).

Total 13

PHYSICIANS NOT MEMBERS

None.

(5) BLOUNT COUNTY Eufaula 1878

President-F. F. Whitehead	Blountsville
Vice-President-N. C. Denton	Oneonta
	Oneonta
	Oneonta
Censors-E. T. Brown, Chairman, Cleveland	
berry, Oneonta; F. F. Whitehead, Blounts	ville; W. W.

Klein, Altoona, Rt. 2; T. M. Towns, Oneonta. NAMES OF MEMBERS WITH THEIR COLLEGES AND

POSTOFFICES Brown, Elridge Tracy, mc Vanderbilt 17, recip. Tennessee

19. Cleveland. Denton, Marvin, mc Univ. Nashville 05, cb 07, Oneonta.

Denton, Nathan Carter, mc Univ. Nashville 05, cb 06, Oneonta.

Hendrix, Clive V., mc Univ. Tenn. 27, recip. Tenn. 29, Oneonta.

Klein, Warwick Wesley, mc Univ. Louisville 05, recip. Ky. 19, Altoona, Rt. 2.

Miles, William C., mc Ala. 00, cb Limestone 00, Oneonta. Self, George Washington, mc Baltimore 90, cb 90, Oneonta.

Stansberry, Chas. Lee, mc Grant 99, cb Fayette 01, Oneonta.

Stone, James T., mc Memphis Hosp. 91, cb Marion 91, Oneonta.

Towns, Thos. M., mc Univ. Ark. 29, sb 29, Oneonta. Whitehead, Frank Fay, mc Ark. 33, recip. Ark. 34, Blountsville.

Whitehead, Vernon Erick, mc Ala. 15, sb 15, Blountsville. Total 12

*See also Perry County.

PHYSICIANS NOT MEMBERS

Bell, James Edgar, mc Univ. Nashville 91, sb 17, Trafford. Rt. 1.

Haden, Andrew Wade, mc Vanderbilt 82, cb 82, Summit. Total 2

(6) BULLOCK COUNTY

President—C. M. Franklin	Union Springs
Vice-President—E. M. Guthrie	Thompson
Secretary-Treasurer-J. K. Haygood	Union Springs
County Health Officer-C. W. McDonald	Union Springs

Censors-C. M. Franklin, Chairman, Union Springs; J. K. Haygood, Union Springs; W. H. McCaslan, Union Springs; E. M. Guthrie, Thompson; C. W. McDonald, Union Springs.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Franklin, Charles Moore, mc P. & S. N. Y. 98, cb 98, Union Springs.

Guthrie, E. M., mc Vanderbilt 05, cb 05, Thompson. Haygood, James Kern, mc Western Reserve 23, recip. Ohio 28, Union Springs.

McCaslan, Wm. Hill, mc Columbia 21, sb 28, Union Springs.

McDonald, Charles W., mc Univ. Nashville 04, cb Cullman 04, Union Springs.

Owen, Hubert R., mc Northwestern 33, recip. Mich. 35, Union Springs. (S.)

Parker, Delmer F., mc Univ. Ore. 37, recip. Ore. 39, 732 Linwood Rd., Birmingham.

Total 7

PHYSICIANS NOT MEMBERS

Gomez, Clifton Jules (col.), mc Howard 39 sb 41, Union Springs.

Total 1

(7) BUTLER COUNTY Montgomery 1875

President—Conrad Wall	Forest Home
Vice-PresidentJames Jordan	McKenzie
Secretary-Treasurer-E. F. Leatherwood	d Greenville
County Health Officer-E. F. Leatherwo	od* Greenville

Censors-H. P. Speir, Chairman, Greenville; Conrad Wall, Forest Home; J. C. Johnston, Chapman; L. V. Stabler, Greenville; J. L. Bryan, Greenville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Bryan, James Lafayette, mc Ala. 01, cb Crenshaw 01, Greenville.

Gay, Otis Franklin, mc Tulane 35, recip. La. 38, Green-

Henderson, Hiliary H., mc Ala. 08, sb 08, Greenville. Johnston, Jos. Cephas, mc Atlanta P. & S. 12, recip. Ga. 26, Chapman.

Jordan, James, mc Memphis Hosp. 12, sb 12, McKenzie. Kendrick, James E., mc Tulane 33, recip. La. 35, Greenville. (S.)

Piper, Barney Lee, mc Atlanta 16, sb 16, Georgiana.

Speir, Henry Philip, mc Univ. Louisville 31, sb 32, Greenville.

Speir, Philip Van Buren, mc Ala. 00, cb Wilcox 00, Greenville.

Stabler, Aubrey A., mc S. C. 37, recip. S. C. 38, Greenville. (S.)

Stabler, E. Vernon, mc Harvard 29, Nat. Bd. Ex. 32, Greenville.

^{*}See also Lowndes County.

Stabler, Lorenzo V., mc Vanderbilt 98, cb 98, Greenville. Wall, Conrad, mc Ala. 97, cb 97, Forest Home. Watson, Robert H., mc Ala. 05, cb 05, Georgiana, RFD.

Total 14

PHYSICIANS NOT MEMBERS

None.

(8) CALHOUN COUNTY Montgomery 1881

President—N. E. Sellers Anniston
Vice-President—A. E. Culberson Anniston
Secretary—W. K. Lloyd Anniston
Treasurer—W. M. Salter Anniston
County Health Officer—J. E. Dunn Anniston

Censors—T. F. Huey, Sr., Chairman, Anniston; W. M. Salter, Anniston; J. H. Meigs, Anniston; N. T. Davie, Anniston; J. W. Britton, Anniston.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Britton, Jas. Woodruff, mc Emory 27, recip. Ga. 30, Anniston. (S.)

Caffey, Benjamin F., mc Tulane 11, sb 11, Choccolocco. Chilton, Alfred M., mc Vanderbilt 34, recip. Tenn 35, Anniston. (S.)

Cleveland, C. Hal, mc Vanderbilt 15, sb 15, Anniston. Cleveland, Hunt, mc Vanderbilt 32, recip. Tenn. 36, An-

Cleveland, Hunt, mc Vanderbilt 32, recip. Tenn. 36, Anniston. (S.)

Culberson, Artice E., mc Ala. 15, sb 15, Anniston.

Davie, Nuckols T., mc Tulane 09, sb 09, Anniston.

Dunn, Julius E., mc Louisville 33, recip. Ky. 36, Anniston. Durden, John D., me Ala. 17, sb 17, Anniston.

Gray, Hugh E., mc Univ. Mich. 24, recip. Mich. 26, Anniston.

Green, Elbert Pierce, mc Ga. 99, cb Randolph 99, Jacksonville.

Gross, Esther, mc Univ. Cincinnati 40, recip. Ohio 41, Anniston

niston. Gross, George D., mc Yale 36, NBE 41, Anniston. (S.)

Hamilton, Grover Cleveland, mc Emory 16, sb 16, Piedmont.

Huey, Thomas F., mc Tulane 01, cb Perry 01, Anniston.
Huey, Thomas F., Jr., mc Vanderbilt 32, recip. Tenn. 34,
Anniston. (S.)

Kimmey, John Mason, mc Emory 28, sb 28, Anniston. (S.) Levi, Irwin P., mc Pa. 09, sb 09, Anniston.

Leyden, Horace A., mc Tenn. 09, sb 10, Anniston.

Lloyd, William K., mc Tulane 21, recip. Va. 38, Anniston. McCraw, Reuben T., mc Ala. 13, sb 14, Oxford.

Meharg, Shelton T., mc Memphis Hosp. 00, cb 00, Anniston.

Meharg, William G., mc Mcinphis Hosp. 99, cb 99, Annis-

Meigs, James H., mc Vanderbilt 25, sb 25, Anniston. (S.) Morton, Lloyd E., mc Atlanta P. & S. 11, recip. Ga. 18, Anniston.

Posey, James F., mc Emory 17, sb 18, Anniston.

Rayfield, John Dexter, mc Tenn. 34, recip. Tenn. 37, Jacksonville

Salter, Wilbur M., mc Ala. 07, cb Conecuh 07, Anniston. Sellers, Neil E., mc Ala. 05, sb 05, Anniston.

Shipp, Montgomery G., mc Vanderbilt 01, cb Marshall 02, Anniston.

Spearman, George Knox, mc Vanderbilt 31, sb 31, Anniston, (S.)

Van Sant, John W., mc Georgia Eclectic 04, cb Marshall 06, Piedmont.

Van Sant, Thomas E., mc Tenn. 31, recip. Tenn. 32, Piedmont. (S.)

Watson, Jerre, mc Ala. 16, sb 16, Anniston.

Weaver, Frank C., mc Ala. 13, sb 13, Anniston.

White, William E., mc Harvard 37, sb 38, Anniston. (S.) Whiteside, Hamlin B., mc Ala. 10, sb 10, Ohatchee.

Whiteside, John M., mc Vanderbilt 84, cb 84, Lakeland, Fla.

Williams, James, mc Ala. 10, sb 10, Jacksonville.
Woodruff, Gerald G., mc Tulane 20, sb 20, Anniston. (S.)
Woolf, Jos. H., mc Ill. 27, sb 27, Piedmont.
Total 41

PHYSICIANS NOT MEMBERS

Elston, Jno. Henry (col.), mc Meharry 26, recip. Tenn. 28, Anniston.

Jackson, Fred D. (col.), mc Meharry 14, sb 14, Anniston. Meharg, Robert L., mc Ala. 06, cb 06, Alexandria. Rodgers, Gordon A. (col.), mc Meharry 08, sb 07, Anniston

Vann, Paul D., mc Ala. 96, cb DeKalb 96, Anniston. Total 5

(9) CHAMBERS COUNTY

Montgomery 1881

President—M. C. Hunt Fairfax
Vice-President—N. A. Wheeler, Jr. Lafayette
Secretary-Treasurer—W. H. Riser Lafayette
County Health Officer—A. H. Graham* (Acting) Lafayette

Censors—W. H. Riser, Chairman, Lafayette; M. C. Hunt, Fairfax; A. B. Lee, Shawmut; W. L. Marshall, Langdale; E. K. Hodge, Fairfax.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Auston, Paul W., mc Univ. Pa. 29, sb 30, West Point, Ga. Cowles, Wm. L., mc Va. 08, recip. Va. 21, Shawmut. Frazer, Ben F., mc Tulane 14, sb 15, Lafayette.

Gaines, William D., mc Ala. 92, cb 92, State Prison Hosp., Atmore.

Henderson, Ernest A., mc Univ. Okla. 38, recip. Okla. 40, Fairfax.

Hodge, Emory King, mc Atlanta 09, sb 09, Fairfax.

Hunt, M. C., mc Tulane 23, sb 23, Fairfax.

Lee, Aubrey Bernard, mc Vanderbilt 32, sb 32, Shawmut. Marshall, W. L., mc P. & S. Atlanta 06, cb Randolph 06, Langdale.

Moore, James Henry, mc Emory 97, recip. S. C. 42, Lafayette.

Morrow, R. P., mc Ala. 11, sb 11, West Point, Ga.
Perley, A. I., mc Rush 35, sb 36, Lafayette. (S.)
Riser, William H., mc Ala. 08, sb 07, Lafayette.
Weldon, Howard S., mc S. C. 40, sb 41, Lanett.
Wheeler, N. A., mc Atlanta P. & S. 07, cb 07, Lafayette.
Wheeler, N. A., Jr., mc Emory 39, recip. Ga. 40, Lafayette.
(S.)

Total 16.

PHYSICIANS NOT MEMBERS

Calhoun, Samuel James, mc Ala. 15, sb Ga. 17, Langdale. Haralson, Thomas H., mc Memphis Hosp. 99, cb Tallapoosa 99, Cusseta.

Jones, Henry T., mc Emory 22, sb 22, Lanett.
Weldon, Robert L., mc Georgia Eclectic 02, cb Lee 02,
Lanett.

Total 4

HONORARY MEMBERS

Byrd, Mark M., mc Emory 25, sb Ga. 25, West Point. McCulloh, Hugh, Jr., mc Emory 25, sb Ga. 25, West Point. Morgan, James Calvin, mc Ala. 14, sb 16, West Point. Williams, Chas. O., mc Atlanta P. & S. 06, sb Ga. 06, West Point.

^{*}See also Lee County.

(10) CHEROKEE COUNTY

Tuscaloosa 1887

President—J. F. Emerson	Spring	Garden
Vice-President—W. J. Campbell		Center
Secretary-Treasurer—S. C. Tatum		Center
County Health Officer—Samuel C. Tatum		Center

Censors—S. C. Tatum, Chairman, Center; J. F. Emerson, Spring Garden; W. J. Campbell, Center.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Campbell, William J., mc Tenn. 31, sb 31, Center. Emerson, Jefferson Forrest, mc Grant 95, cb Marshall 97, Spring Garden.

Tatum, Samuel Carter, mc Vanderbilt 93, cb 93, Center. Total 3

PHYSICIANS NOT MEMBERS

Grambling, Joseph W., mc Ala. 01, cb Franklin 01, Center. White, William Walden, mc Emory 24, recip. Ga. 25, Center. (S.)

Total 2

(11) CHILTON COUNTY Selma 1879

President-C. O. Lawrence	Clanton
Vice-President—J. P. Hayes	Clanton
Secretary-Treasurer—C. R. Moore	Clanton
County Health Officer—G. E. Newton*	Clanton

Censors—C. O. Lawrence, Chairman, Clanton; V. J. Gragg, Clanton; R. J. Eiland, Clanton; W. C. Golden, Clanton; C. R. Moore, Clanton.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Day, Edward, mc Tulane 11, sb 16, Maplesville. Eiland, John Daniel, mc Univ. Nashville 11, sb 12, Verbena.

Eiland, Robert John, ng, sb 07, Clanton.
Franklin, Horace G., mc Louisville 30, sb 30, Thorsby.
Golden, William C., mc LSU 34, recip. Miss. 37, Clanton.
Gragg, Vincent Jones, mc Tulane 08, sb 06, Clanton.
Hayes, Julius Poe, mc Memphis Hosp. 96, cb 96, Clanton.
Lawrence, Claud O., mc Emory 17, sb 17, Clanton.
Moore, Charles R., mc Tulane 35, sb 35, Clanton.
Parnell, Charles Nicholas, mc Ala. 91, cb 91, Maplesville.
Strock, Charles Stewart, mc Vanderbilt 04, cb 04, Verbena.

Total 11

PHYSICIANS NOT MEMBERS

Campbell, V. O., mc Ala. 00, cb 00, Jemison. Total 1

(12) CHOCTAW COUNTY Selma 1879

President-W. J. Barber	Butler
Vice-President—R. W. Shaw	ertown
Secretary-Treasurer—T. M. Littlepage	Butler
County Health Officer—T. M. Littlepage	Butler

Censors—H. W. Robinson, Chairman, Edna; R. W. Shaw, Gilbertown; W. J. Barber, Butler; T. M. Littlepage, Butler; J. W. Rudder, Toxey.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Barber, William J., mc Tulane 29, sb 29, Butler. Gully, Virgil S., mc Tulane 38, recip. La. 42, Butler. Littlepage, Thos. M., mc Ala. 04, cb 04, Butler. Miller, Samuel T., mc Ala. 01, cb Greene 04, Yantley. Robinson, Henry W., mc Memphis Hosp. 01, cb 01, Edna. Rudder, John W., mc Univ. Nashville 07, cb 07, Toxey. Shaw, Rowell Wilbur, mc Memphis Hosp. 00, cb Washington 00, Gilbertown.

Total 7

PHYSICIANS NOT MEMBERS

Elliott, Thomas C., mc Tulane 37, sb 37, Butler. (S.) Phillips, Jake P., mc Ala. 86, cb 87, Lisman. Total 2

(13) CLARKE COUNTY

Grecnville 1885

President—Cobb Nichols	Jackson, Rt.
Vice-President-W. S. Chapman	Jackson
Secretary-Treasurer—Caroline Callison	Grove Hill
County Health Officer-Caroline Callison	Grove Hill

Censors—J. C. Godbold, Chairman, Whatley; A. L. White, Thomasville; R. D. Neal, Grove Hill; J. T. Pugh, Grove Hill; W. S. Chapman, Jackson.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Armistead, Lee L., ng, cb Choctaw 92, Campbell. Bedsole, James Goodman, mc Vanderbilt 11, sb 11, Jackson.

Callison, Caroline, mc S. C. 39, recip. S. C. 42, Grove Hill. Chapman, Leland W., mc Ala. 11, sb 11, Jackson. Chapman, Will Stewart, mc Emory 24, sb 24, Jackson. Connell, Isee Lee, mc Univ. Chicago 29, recip. Ill. 31, Grove Hill. (S.)

Davidson, James S., mc Tulane 29, recip. La. 39, Thomasville.

Godbold, John Cooper, Jr., mc Ala. 11, sb 11, Whatley.
Irons, Richard Allen, mc Emory 24, sb 24, Thomasville.
Long, Thomas F., mc Tulane 08, recip. La. 23, Coffeeville.
McCrary, Gaines C., mc Ala. 07, sb 07, Jackson.
Neal, Ralph Dewey, mc Emory 23, recip. Ga. 24, Grove
Hill.

Nichols, Cobb, mc Ala. 98, cb 01, Carlton.
Pugh, John T., mc Vanderbilt 97, cb 97, Grove Hill.
Robinson, Amos N., mc Ala. 93, cb 94, Coffeeville.
Shaw, Robert E., mc Ala. 98, sb 99, Whatley.
Warren, Claude M., mc Univ. Louisville 38, recip. Ky. 39,

Jackson. (S.)
White, Alexander L., mc Memphis Hosp. 98, cb 98, Thomasville.

Total 18

PHYSICIANS NOT MEMBERS

None.

(14) CLAY COUNTY Selma 1879

President-L. G. Cole	Ashland
Vice-President-J. S. Gay	Ashland
Secretary-Treasurer-M. L. Shaddix	Ashland
County Health Officer-M. L. Shaddix	Ashland

Censors—B. A. Stephens, Chairman, Lineville; J. S. Gay, Ashland; J. L. Hilt, Lineville; M. L. Shaddix, Ashland; J. W. Jordan, Ashland.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Cole, Leslie G., mc Tenn. 31, recip. Tenn. 32, Ashland. Gay. Jas. S., mc Ala. 05, cb 05, Ashland. Hilt, John L., mc Atlanta Sou. 89, cb 89, Lineville. Johnson, Chester Earle, Jr., mc Univ. Col. 31, sb 31, Lineville.

Jordan, Joseph Wiley, mc Atlanta 91, cb 87, Ashland. Owens, Arthur H., mc Ala. 05, cb 05, Ashland.

^{*}See also Autauga County.

Shaddix, Marion L., mc Ala. 10, sb 10, Ashland. Stephens, Albert R., mc Atlanta Sou. 88, cb 88, Delta. Stephens, Burrel Anderson, mc Ala. 92, cb 92, Lineville. Total 9

PHYSICIANS NOT MEMBERS

Killgore, James J., mc Memphis Hosp. 01, cb 01, Wadley. Total 1

(15) CLEBURNE COUNTY Selma 1884

President—L. R. Wright	Heflin
Vice-President-J. L. Dorough	Heflin
Secretary-Treasurer—F. R. Wood	Heflin
County Health Officer—J. L. Dorough	Heflin

Censors—L. R. Wright, Chairman, Heflin; F. R. Wood, Heflin; J. L. Dorough, Heflin.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Dorough, John L., mc Okla. 15, recip. Okla. 21, Heflin. Wood, Frank Richard, mc Chattanooga 01, cb Randolph 01, Heflin.

Wright, Lee Roy, mc Univ. Nashville 00, cb 00, Heflin. Total 3

PHYSICIANS NOT MEMBERS

None.

(16) COFFEE COUNTY Greenville 1885

President—J. S. DuBois	Enterprise
Vice-President-C. P. Hayes	Elba
Secretary-Treasurer—W. A. Lewis	Enterprise
County Health Officer-G. L. Weidner	Elba

Censors—C. P. Hayes, Chairman, Elba; E. L. Gibson, Enterprise; W. A. Stanley, Enterprise; D. A. Bush, New Brockton; B. F. Thrower, Enterprise.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Bragg, Eugene G., mc Ala. 14, sb 15, Victoria (mail Jack). Braswell, William Cicero, mc Tulane 09, sb 09, Elba.

Bush, David A., mc Ala. 07, sb 07, New Brockton.

Crook, William Randolph, mc Chattanooga 02, cb 02, Elba. DuBois, James S., mc Tulane 37, sb 37, Enterprise.

Folsom, Marion A., mc Ala. 07, cb 07, Jack.

Fussell, James A., mc Tenn. 25, recip. Tenn. 26, New Brockton.

Gibson, Edward Lee, mc Ala. 13, sb 13, Enterprise.

Harrison, King William, mc Ala. 96, cb Lowndes 97, Enterprise.

Hayes, Charles Phillip, mc Louisville 06, cb Houston 06,

Lewis, Walter Augustus, mc Tulane 97, cb Barbour 97, Enterprise.

Massey, Bartlett Jones, mc Ala. 03, cb Jefferson 03, Enterprise.

Stanley, William Alfred, mc Ala. 12, sb 12, Enterprise.

Thrower, Benjamin Franklin, mc Ala. 11, sb 12, Enterprise.

Weidner, Garland L., mc Univ. Louisville 27, recip. Ky. 42. Elba.

Total 15

PHYSICIANS NOT MEMBERS

None

(17) COLBERT COUNTY Montgomery 1881

President-Loren Gary, Jr.	Tuscumbia
Vice-President—M. C. Dunn	Listerhill
Secretary-Treasurer—R. E. Harper	Tuscumbia
County Health Officer—R. E. Harper	Tuscumbia

Censors—R. D. Wright, Chairman, Leighton; G. F. Littlepage, Sheffield; Loren Gary, Jr., Tuscumbia; C. R. Whitman, Tuscumbia; W. H. Blake, Jr., Sheffield.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Blake, Wyatt Heflin, Jr., mc Vanderbilt 21, sb 21, Sheffield.

Boozer, David Thomas, mc Atlanta 14, sb 15, Sheffield.

Cox, D. D., mc Rush 29, sb 31, Sheffield.

Dunn, Milton C., mc Tenn. 41, recip. Tenn. 42, Listerhill. Finley, William Albert, ng, sb 09, Cherokee.

Gary, Loren, Jr., mc Univ. Ga. 32, recip. Ga. 41, Tuscumbia.

Gary, Robert Eugene, mc Univ. Ga. 32, recip. Ga. 37, Tuscumbia. (S.)

Griffith, Howard Asa, mc Ala. 07, cb Jefferson 07, Sheffield.

Harper, Robt. Edwin, mc S. C. 25, recip. S. C. 28, Tuscumbia.

Littlepage, George Frederick, mc Tulane 09, sb 07, Sheffield.

Maxwell, Walter J., mc Univ. South 01, cb Tuscaloosa 01, Sheffield.

McGrath, William Edward, mc Ala. 20, sb 20, Sheffield. Pierce, William M., mc Memphis Hosp. 03, cb Cullman 04, Tuscumbia.

Trapp, Walter R., mc Emory 32, recip. Miss. 33, Tuscumbia.

Whitlock, Hilard Elbert, mc Tenn. 31, recip. Tenn. 37, Tuscumbia.

Whitman, Clayborne Russell, mc Ala. 09, sb 09, Tuscumbia.

Wright, Rufus Denson, mc Tenn. 29, sb 29, Leighton. Total 17

PHYSICIANS NOT MEMBERS

Palmer, Chas. R., mc Tenn. 15, sb 15, Sheffield. (Retired.) Ruffin, W. L. (col.), mc Leonard 10, cb Montgomery 10, Sheffield.

Total 2

(18) CONECUH COUNTY

Selma 1879

President—R. W. Stallworth	Evergreen
Vice-President-J. W. Hagood	Evergreen
Secretary-Treasurer—E. L. Kelly	Evergreen
County Health Officer—E. L. Kelly	Evergreen

Censors—G. G. Newton, Chairman, Evergreen; E. L. Stallworth, Evergreen; U. L. Jones, Brooklyn; R. W. Stallworth, Evergreen; W. R. Carter, Repton.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Carter, William Robert, mc Emory 24, sb 24, Repton. Hagood, John W., mc Ala. 98, cb Lowndes 98, Evergreen. Hendrix, R. Walker, mc Tulane 33, recip. La. 34, Evergreen. (S.)

Jones, Urban Louis, mc Missouri 04, cb Geneva 04, Brooklyn.

Kelly, Edward Lamar, mc Ala. 00, cb 00, Evergreen. Newton, Guy Guerdon, mc Ala. 97, cb 97, Evergreen. Stallworth, Emmet Lemuel, mc Ala. 94, cb 94, Evergreen. Stallworth, Robert W., mc Emory 29, sb 29, Evergreen.

PHYSICIANS NOT MEMBERS

None

(19) COOSA COUNTY Birmingham 1883

President—J. A. R. Chapman Goodwater
Vice-President—E. Argo Goodwater
Secretary-Treasurer—W. H. Goff Rockford
County Health Officer—C. S. Cotlin* Rockford

Censors—J. A. R. Chapman, Chairman, Goodwater; Eugene Argo, Goodwater; W. H. Goff, Rockford.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Argo, Eugene, mc Vanderbilt 91, cb 91, Goodwater. Chapman, John A. R., mc Ala. 12, sb 12, Goodwater. Goff, William Hunter, mc Vanderbilt 35, recip. Tenn. 38, Rockford.

PHYSICIANS NOT MEMBERS

None.

Total 3

(20) COVINGTON COUNTY Montgomery 1888

President-L. L. Parker	Andalusia
Vice-President-H. W. Waters	Opp
Secretary-Treasurer—C. D. McLeod	Andalusia
County Health Officer-C. D. McLeod	Andalusia

Censors—J. C. Hurst, Chairman, Opp; F. W. Gallaway, Florala; D. J. Campbell, Dozier, RFD; L. L. Parker, Andalusia; C. H. Chapman, Andalusia.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Campbell, Daniel J., mc Miss. 09, sb 09, Dozier, RFD. Chapman, Charles Hicks, mc Tulane 09, sb 09, Andalusia. Evers, Ray, mc Vanderbilt 38, recip. Tenn. 40, Andalusia. Gallaway, Fletcher W., mc Memphis Hosp. 03, cb Houston 03, Florala.

Hamner, Samuel C., mc Ala. 09, sb 10, Andalusia. Holley, J. F., mc Emory 22, sb 22, Lockhart. Hurst, John C., mc Emory 25, sb 25, Opp. Kyzar, J. H., mc Tulane 13, sb 13, Andalusia. MacLennan, Edward R., mc Emory 35, recip. Ga. 36, Opp. (S.)

McLeod, Coleman D., mc S. C. 33, sb 34, Andalusia. O'Neal, Lester C., mc LSU 33, recip. La. 34, Andalusia. (S.) Parker, Lorenzo Dowe, mc Ala. 01, cb 01, Andalusia. Parker, Leslie L., mc LSU 40, recip. La. 41, Andalusia.

Parker, Leslie L., mc LSU 40, recip. La. 41, Andalusia.
Rawls, Vance Q., mc Louisville 29, recip. Ky. 35, Andalusia.

Ray, Elgin A., mc Tulane 27, sb 27, Gantt.
Waters, Hinton W., mc Ala. 13, sb 13, Opp.
Wood, Gordon L., mc Ala. 11, sb 11, Andalusia.
Woodley, Lawrence S., mc Tulane 37, sb 37, Andalusia.
(S.)

Young, Ferrin, mc Vanderbilt 09, sb 09, Florala. Total 19

PHYSICIANS NOT MEMBERS

Dowdy, Robert W., mc Tenn. 91, cb Randolph 91, Opp, Rt. 3.

Ham, Nelson M., mc Ala. 98, cb Coffee 98, Opp, Rt. 3. Total 2

(21) CRENSHAW COUNTY Mobile 1882

President—J. C. Ford	Bradleyton
Vice-President-L. A. Windham	Luverne
Secretary-Treasurer-J. O. Foster	Luverne
County Health Officer-Jas. O. Fos	ter Luverne

^{*}See also Elmore County.

Censors—L. A. Windham, Chairman, Luverne; H. S. Abercrombie, Petrey; J. W. Davidson, Brantley; F. J. Lee, Luverne; W. H. Bell, Dozicr.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Abercrombie, Henry S., ng, sb 98, Petrey. Bell, Walter Houston, mc Univ. Nashville 06, cb 06, Dozier.

Davidson, James W., mc Chattanooga 06, recip. Tenn. 24, Brantley.

Ford, Julian C., mc P. & S. St. Louis 96, cb 96, Bradleyton. Foster, James Oscar, mc P. & S. Atlanta 06, cb 06, Luverne.

Lee, Frank J., mc Ala. 08, sb 08, Luverne. Watkins, Martin L., mc Vanderbilt 99, cb 99, Glenwood. Windham, Lewis A., mc Atlanta 16, sb 16, Luverne. Total 8

PHYSICIANS NOT MEMBERS

None

(22) CULLMAN COUNTY Anniston 1886

President—J. G. Daves	Cullman
Vice-President—R. B. Dodson	. Cullman
Secretary-Treasurer-M. S. Whiteside	Cullman
County Health Officer-M. S. Whiteside	Cullman

Censors—R. B. Dodson, Chairman, Cullman; G. T. Rowe, Hanceville; J. G. Daves, Cullman; V. P. Hughes, Cullman; R. A. Culpepper, Cullman.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Beatty, Thomas D., mc Rush 36, recip. Wis. 39, Cullman. (S.)

Cornelius, L. B., mc Ala. 12, sb 13, Cullman, Rt. 5. Culpepper, Rufus Alva, mc Chicago M. & S. 14, sb 15, Cullman.

Daves, James G., mc Emory 20, sb 20, Cullman. Dodson, Robert Bruce, mc Ala. 13, sb 13, Cullman. Gross, Chas. M., mc Ala. 08, sb 08, Cullman, Rt. 3. Hancock, Meda W., mc Univ. South. 08, sb 09, Arkadel-

Hays, Luther, mc Chattanooga 00, cb 01, Cullman. Herrin, Charles Edward, mc Chattanooga 02, cb 02, Cullman.

Hughes, Virgil P., mc Emory 26, sb 26, Cullman.

Markheim, Herbert R., mc New York 38, NBE 40, Cullman.

(S.)

Martin, James Cordie, mc Chattanooga 05, cb Morgan 05, Cullman.

McAdory, Edward Dudley, mc Ala. 14, sb 15, Cullman. Rowe, George T., mc Loyola 28, sb 29, Hanceville. Sandlin, E. G., mc Vanderbilt 07, sb 06, Holly Pond. Stitt, Frank C., mc Univ. Ark. 28, sb 28, Cullman. Whiteside, M. S., mc Tulane 20, sb 20, Cullman. Wood, James W., mc P. & S. Atlanta 97, cb Clay 97, Hanceville.

Total 18

PHYSICIANS NOT MEMBERS

Graf, Charles Christopher, mc Ala. 13, sb 14, Steppville (Retired).

Hale, Prior, old law, cb Morgan 80, Vinemont, Rt. 2. Head, Walter H., mc Tulane 24, recip. La. 27, Cullman. Winn, John Thomas, mc Tenn. 93, cb 93, Baileyton. (Retired.)

Total 4

(23) DALE COUNTY Tuscaloosa 1887

President-R. D. Reynolds	Ozark
Vice-President-W. A. Cotter	Ozark
Secretary-Treasurer-W. L. Orr	Ozark
County Health Officer-W. L. Orr	Ozark

Censors—H. L. Holman, Chairman, Ozark; Moses Mc-Ghee, Daleville; A. D. Matthews, Ozark; R. D. Reynolds, Ozark; W. A. Parrish, Midland City.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Cotter, William Arnice, mc Univ. Louisville 09, sb 10, Ozark.

Holman, Henderson Looney, mc Memphis 98, cb Monroe 98, Ozark.

Holman, Norman Willard, mc Emory 35, recip. Ga. 36, Ozark. (S.)

Matthews, Augustus Douglas, mc Ala. 11, sb I3, Ozark. McGhee, Moses, mc Atlanta 98, cb Henry 06, Daleville. Orr, William Lucius, mc Baltimore 04, recip. Ga. 30, Ozark.

Parrish, William A., mc Univ. Nashville 09, sb I0, Midland City.

Reynolds, Robert Davis, mc Ala. 05, cb 05, Ozark Smith, Gordon Roysce, mc Tulane 21, sb 21, Ozark. (S.) Stovall, H. C., mc Atlanta 08, sb 09, Pinckard. Total 10

PHYSICIANS NOT MEMBERS

Espy, Curtls, mc Univ. South 04, cb Henry 04, Midland City.

Garrett, James DeWitt, mc Tulane 12, sb 12, Midland City. Weems, Wm. M., mc Ala. 91, cb Henry 91, Clopton. Total 3

(24) DALLAS COUNTY Montgomery 1875

President-J. S. Chisolm	Selm	a
Vice-President-G. T. Edwards	Selma, Rt.	1
Secretary-Treasurer-L. T. Lee	Selm	а
County Health Officer-L. T. Lee	Selm	а

Censors—P. Y. Donald, Chairman, Selma; J. S. Chisolm, Selma; W. W. Burns, Selma; D. H. Doherty, Selma; J. P. Chapman, Selma.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Alison, James Fairly, mc Tulane 23, sb 23, Selma. Alison, Samuel Blakemore, mc Ky. 89, cb 93, Minter. Bayne, Rembert D., mc Tulane 27, sb 27, Selma. Burns, William Wilkes, mc Tulane 15, sb 16, Selma. Caine, V. H., mc Ala. 92, cb Wilcox 92, Orrville. Callaway, Eugene, mc Univ. Va. 04, Bellevue 05, sb 10, Selma.

Chapman, Jesse P., mc Ala. 12, sb 12, Selma. Chisolm, James Satterfield, mc Tulane 05, cb 06, Selma. Chisolm, Jos. Raymond, mc Tulane 16, recip. La. 23, Marion Junction.

Chisolm, Robert Patrick, mc Ala. 93, cb 93, Summerfield. DeRamus, William Henry, mc Tulane 31, recip. La. 36, Selma. (S.)

Doherty, Drayton H., mc Johns Hopkins 15, sb 15, Selma. Donald, Pressly Young, mc Tulane 15, sb 15, Selma. Edwards, Daniel B., mc Ala. 98, cb 98, Tyler, RFD. Edwards, Geo. Traylor, mc Ala. 12, sb 12, Selma, Rt. 1. Ehlert, Wm. Emile, mc Tulane 38, recip. La. 42, Selma. Feulner, Charles Daniel, mc Ky. 05, sb 06, Selma. Grayson, Richard J., mc Tulane 26, sb 26, Selma. (S.) Harper, William Frantz, mc Harvard 22, sb 23, Selma. Howell, Julian P., mc Tulane 35, sb 35, Selma. (S.) Kenan, James, mc Univ. Va. 97, cb 04, Selma. Kirkpatrick, Samuel McCurdy, mc Tulane 29, sb 29, Selma. (S.)

Lee, Lucien Tennent, mc Ala. 04, cb Barbour 04, Selma. Long, Randolph N., mc Tulane 35, recip. La. 37, Selma. Luckie, Kenneth Earl, mc Tulane 27, sb 27, Selma. Martin, Jesse H., mc Memphis Hosp. 10, sb 10, Selma. Martin, Thomas Marion, mc Vanderbilt 99, cb Chilton 99, Plantersville.

Moore, Lawrence Henry, mc Ala. 01, cb 01, Orrville.

Moseley, Samuel O. mc Tulane 20, sb 21, Selma. Riggs, Samuel Watt, mc P. & S. Baltimore 93, sb 93, Pleasant Hill.

Skinner, Ira Clifton, mc Ala. 01, cb 01, Selma.

Skinner, Marcus M., mc Ala. 12, sb 12, Selma.

Smith. Josiah H., mc Johns Hopkins 31, recip. Md. 40, Selma.

Stuart, Wm. W., mc Ky. 94, cb Wilcox 94, Berlin.

Wallace, Archibald D., mc Memphis Hosp. 07, cb Autauga 07, Plantersville.

Williams, J. Richard, mc Tulane 31, sb 31, Selma. Total 36

PHYSICIANS NOT MEMBERS

Allen, Julian Bernard (col.), mc Howard 26, recip. D. C. 28, Selma.

Dinkins, Pauline (col.), mc Woman's, Pa. 19, sb 19, Selma. Patton, Madison Knox, mc Tulane 91, cb Greene 91, Selma. (Retired.)

Strickland, Mack Milton, mc Ala. 00, cb Lowndes 01, Selma, RFD. (Retired.)

Walker, Nathaniel D. (col.), mc Leonard 13, sb 15, Selma. Total 5

(25) DeKALB COUNTY

Greenville 1895

President-C. H. Richey	Valley Head
Vice-President—J. E. Buzbee	Ft. Payne
Secretary-Treasurer—E. N. Haller	Ft. Payne
County Health Officer—E. N. Haller	Ft. Payne

Censors—C. D. Killian, Chairman, Ft. Payne; J. E. Buzbee, Ft. Payne; Briggs Parrish, Geraldine; R. F. Elrod, Ft. Payne; T. H. Appleton, Collinsville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Appleton, Thomas Hayne, mc Chattanooga 92, cb 92, Collinsville

Buzbee, J. E., mc Ala. 08, sb 10, Ft. Payne.

Casey, M. L., mc Chattanooga 01, cb Marshall 01, Henagar. Elrod, Robert F., mc Chattanooga 05, cb Russell 05, Ft. Payne.

Floyd, Milton Tucker, mc Montezuma 98, cb Lee 99, Ft. Payne.

Guest, Reuben John, Jr., mc Emory 31, recip. Ga. 32, Ft. Payne.

Haller, Edwin N., mc Tulane 22, recip. Tenn. 42, Ft. Payne. Hansard, William Simeon, mc Chattanooga 07, cb 07, Henagar, RFD.

Holler, Carl A. F., mc Northwestern 21, recip. Iowa 38, Ft. Payne. (S.)

Killian, Claud Dallas, mc Ala. I3, sb 14, Ft. Payne.

Marsh, Jos. S., mc Chicago M. & S. 17, sb 18, Collinsville. Parris, Briggs, mc Tenn. 13, sb 14, Geraldine.

Richey, Clinton H., mc Louisville 29, recip. Tenn. 31, Valley Head.

Wilson, Dilimus Wesley, mc Chattanooga 00, cb Marshall 01, Fyffe, Rt. 2.

Wright, Duward O., mc Northwestern 30, sb 30, Ft. Payne. (S.)

Total 15

PHYSICIANS NOT MEMBERS

Bogle, Jos. Hoge, mc Vanderbilt 00, cb 00, Collinsville. Clayton, A. L., mc Chattanooga 95, cb 95, Fyffe. Haggard, Daniel Carr, mc Chattanooga 10, recip. Tenn. 20, Sylvania.

Hayes, Charles, mc Chattanooga 03, cb Morgan 03, Fyffe. Total 4

(26) ELMORE COUNTY Birmingham 1877

President-O. C. Powell	Titus
Vice-President-J. S. Harmon	Elmore
Secretary-Treasurer—C. S. Cotlin	Wetumpka
County Health Officer—C. S. Cotlin	Wetumpka

Censors—E. P. Moon, Chairman, Wetumpka; J. F. Sewell, Wetumpka; J. S. Harmon, Elmore; W. M. Gamble, Wetumpka; O. C. Powell, Titus.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Corrington, Dale D., mc Rush 21, recip. Illinois 26, Tallassee.

Cotlin, Chas. S., mc Tenn. 30, sb 31, Wetumpka.

Gamble, William Melvin, mc Louisville 87, cb Jefferson 87, Wetumpka.

Gresham, George L., mc Tulane 05, cb Covington 05, Speigner.

Harmon, James Samuel, mc Chattanooga 07, cb 07, Elmore.

Huckaby, Grady B., mc Tenn. 41, recip. Tenn. 42, Tallassee.

Huddleston, Robert Lee, mc Ga. 90, cb 90, Deatsville.

Lett, Ed. R., mc Louisville 05, cb 07, Tallassee.

Majure, Ernest Odell, mc Emory 32, recip. Miss. 35, Wetumpka. (S.)

Moon, Eddie P., mc Vanderbilt 98, cb 98, Wetumpka. Moore, Ernest G., mc LSU 33, recip. La. 35, Tallassee.

Owsley, W. M., mc Ala. 14, sb 14, Eclectic. Powell, Oscie C., mc Chattanooga 00, cb 02, Titus.

Sewell, John Ferris, mc Vanderbilt 21, sb 21, Wetumpka.
Total 14

PHYSICIANS NOT MEMBERS

Boswell, Franklin A., mc Ala. 00, cb Pike 00, Elmore. Milner, Samuel R., mc Ala. 94, cb 97, Eclectic, Rt. 1. Total 2

(27) ESCAMBIA COUNTY Greenville 1886

President-W. L. Abernethy	Flomaton
Vice-President-J. P. Stallworth	Canoe
Secretary-Treasurer-M. H. Hagood	Brewton
County Health Officer-W. B. Nelson*	Brewton

Censors—J. P. Stallworth, Chairman, Canoe; W. L. Abernethy, Flomaton; M. H. Hagood, Brewton; A. F. Holley, Brewton; J. O. Lisenby, Atmore.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Abernethy, William Lordin, mc Ala. 94, cb Monroe 94, Flomaton.

Abrams, Maurice J., mc Johns Hopkins 30, recip. Md. 33, Brewton. (S.)

Donald, William J., mc Tenn. 26, sb 28, 519 Dexter Ave., Montgomery.

Graham, Joseph B., mc Univ. Va. 28, recip. Va. 32, 56 St. Joseph St., Mobile.

Hagood, Middleton Howard, mc Ala. 98, cb Lowndes 98, Brewton.

Holley, Al Fonto, mc Louisville 33, recip. Ky. 35, Brewton. Lisenby, Jas. Otis, mc Tulane 25, recip. La. 27, Atmore.

Marlette, Geo. C., mc Ala. 16, sb 16, New Orleans. McMurphy, James Patrick. mc Ala. 06, cb Monroe 06, Atmore.

Murphy, Iva G., mc Univ. Ill. 34, recip. Cal. 40, Brewton. (S.)

Salley, Geo. W., mc Tenn. 03, cb Butler 03, Atmore.
Stallworth, James Patrick, mc P. & S. Atlanta 07, cb 07,
Canoe.

*See also Baldwin County.

Treherne, Alfred James, mc Louisville 32, rccip. Ky. 35, Atmore. (S.)

Total 13

PHYSICIANS NOT MEMBERS

Mason, Francis Henry, mc Ala. 91, cb Monroe 91, Brewton.

McKinley, Charles F., mc Ala. 07, cb Monroe 07, Atmore. Peavy, Julius Franklin, Jr., mc Ala. 12, sb 12, Atmore. Tippin, Philip Henry Mulcahy, mc Ala. 94, cb 94, Brew-

Total 4

ton.

HONORARY MEMBER

Turberville, J. S., Century, Fla.

(28) ETOWAH COUNTY Eufaula 1878

President—J. S. Bobo	Gadsden
Vice-President-E. A. Isbell	Gadsden
Secretary-Treasurer—DeWitt Faucett	Gadsden
County Health Officer-J. E. Dunn*	Gadsden

Censors—E. K. Hanby, Chairman, Attalla; J. L. Brown, Gadsden; E. H. Cross, Gadsden; W. L. Miller, Gadsden; J. S. Bobo, Gadsden.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Alford, Othar T., mc Univ. Tenn. 29, recip. Tenn. 37, Gadsden.

Anderson, William, mc Memphis Hosp. 06, sb 05, Glencoe, Rt. 2.

Anderson, William O. mc Univ. Ark. 38, recip. Ark. 39. Alabama City. (S.)

Bass, Herschel Winston, mc Johns Hopkins 06, sb 06, Gadsden.

Blair, Ezekiel S., mc Univ. Tenn. 10, recip. Tenn. 42, Gadsden.

Blank, William H., mc Rush 38, sb 38, Alabama City. Bobo, James E., mc Tenn. 38, recip. Tenn. 40, Gadsden. (S.)

Bobo, John S., mc Vanderbilt 24, recip. Tenn. 25, Gadsden.

Brown, James M., mc Ala. 89, cb Montgomery 89, Gadsden.

Brown, Joseph Lucien, mc P. & S. Baltimore 18. sb 19, Gadsden.

Burns, Chas. R. D., mc Univ. Ark. 38, recip. Ark. 40, Alabama City. (S.)

Burns, R. A., mc Vanderbilt 01, cb 01, Alabama City.
Cantrell, Wilson T., mc Ky. 06, cb Marion 06, Alabama
City.

Carraway, Alfred, mc Ala. 15, sb 22, Gadsden.

Clark, Ralph Denson, mc Columbia 27, Nat. Bd. Ex. 30, Gadsden.

Cross, Elias Howell, Jr., mc Vanderbilt 26, recip. Tenn. 27, Gadsden.

Davis, John Woodfin, mc Tenn. 35, recip. Tenn. 37, Alabama City. (S.)

DeJanney, Nicholas H., mc Georgetown Univ. 31, recip. N. J. 42, Gadsden.

Faucett, DeWitt, mc P. & S. Baltimore 09, sb 09, Gadsden.
Faucett, George L., mc P. & S. Baltimore 03, cb 03, Gadsden.

Finney, James O., mc Vanderbilt 33, recip. Tenn. 36, Gadsden. (S.)

Ford, Henry Grady, mc Vanderbilt 23, sb 24, Gadsden. (S.) Ford, Joseph Wesley, mc Okla. 31, recip. Okla. 37, Gadsden, Rt. 2. (S.)

Ford, William F., mc Vanderbilt 94, cb 95, Gadsden, Rt. 2. Frank, Herman W., mc Tulane 27, recip. La. 30, Gadsden. Gillespie, J. P., Jr., mc Emory 27, recip. Ga. 29, Gadsden. (S.)

Gipson, Amos C., mc Ill. 27, sb 27, Gadsden.

^{*}See also Calhoun County.

Graves, Alex Wilson, mc Ala. 16, sb 16, Gadsden. Grimes, Ormond R., mc Emory 30, sb 30, Gadsden. Guice, Charles Lee, mc Grant 93, cb Dale 93, Gadsden. Hanby, Elmus K., mc Ala. 02, cb St. Clair 02, Attalla. Holladay, Joel J., Jr., mc N. Y. U. 34, sb 35, Gadsden. (S.) Hughes, Miles Preston, mc Vanderbilt 06, sb 05, Gadsden. Isbell, Euclid A., mc Tulane 33, sb 34, Gadsden. Kilpatrick, Lewis Alex, mc Ala. 09, sb 09, E. Gadsden. Lawson, Chas. Lloyd, mc Univ. Tenn. 36, recip. Tenn. 39, Gadsden.

Lawson, Nettie Black, mc Univ. Tenn. 37, recip. Tenn. 40, Gadsden.

Leach, James E., mc Univ. Nashville 00, cb Blount 00, Gadsden.

Little, Edwin G., mc Ala. 05, sb 05, Gadsden.

Lonnergan, Leilas Ragan, Jr., mc Tulane 34, recip. La. 36, 6614 7th Place, N. W., Washington, D. C. (S.)
Lucas, Frank B., mc Univ. Ill. 23, recip. Ill. 42, Gadsden.
McCay, Timothy Cleveland, mc Ala. 15, sb 15, Gadsden.
McCord, Bert, mc Northwestern 28, sb 29, Gadsden.
McCorkle, Frank W., mc Jefferson 17, sb 17, Gadsden.
McDiarmid, Thos. Scott, mc Ala. 09, sb 10, Gadsden.
McElroy, James Mahlon, mc Univ. South 01, cb Sumter
02, Attalla.

McEver, Edward A., mc Univ. Tenn. 25, recip. Tenn. 42, Gadsden. (S.)

McNabb, John Tate, mc Tenn. 34, recip. Tenn. 38, Alabama City. (S.)

Meneray, Wilbur E., mc Tulane 37, recip. La. 43, Gadsden. Miller, William L., mc Johns Hopkins 23, Nat. Bd. Ex. 28, Gadsden.

Motyka, Stanley J., mc Univ. Ark. 38, recip. Ark. 41, 3567 E. Barnard Ave., Cudahy, Wis.

Morgan, J. Orville, mc Atlanta 16, sb 17, Gadsden. Murphree, Claud L., mc Ala. 02, cb 02, Gadsden. Nicholson, Lemuel B., mc Vanderbilt 15, sb 17, Gadsden. Noble, William, mc Emory 38, rccip. Cal. 40, Attalla. (S.) Powell, H. B., mc Ala. 10, sb 10, Gadsden. Ralls, Arthur W., mc P. & S. Atlanta 02, cb 02, Gadsden.

Ralls, Arthur W., mc P. & S. Atlanta 02, cb 02, Gadsden Rowan, Walter William, mc Atlanta 15, sb 15, Attalla. Rowe, Mercer, mc Ala. 17, sb 17, Gadsden.

Samuel, Ira J., mc Univ. Nashville 08, sb 14, Altoona.
Savage, Henry J., mc Tulane 01, cb Conecuh 02, Gadsden.
Sheppard, John T., mc Vanderbilt 29, recip. Tenn. 33,
Gadsden. (S.)

Sigrest, Otho Randolph, mc Ala. 08, sb 08, Gadsden. Silvey, Gordon E., mc Tenn. 10, sb 10, Gadsden. Simpson, S. Paul, mc Univ. Louisville 26, recip. Ky. 27, Alabama City. (S.)

Simpson, Wyatt Collier, mc Harvard 31, Nat. Bd. Ex. 38, Gadsden. (S.)

Total 66

PHYSICIANS NOT MEMBERS

Coffey, Geo. W. (col.), mc Howard 03, cb Lauderdale 06, Gadsden.

Donald, Livingston M. (col.), mc Meharry 21, recip. Tenn. 25, Gadsden.

Gramling, Arthur B., mc Md. 04, cb 04, Attalla. Towns, John Bunyon (col.), mc Meharry 23, sb 23, Gadsden.

Total 4

(29) FAYETTE COUNTY Selma 1879

	Fayette
Vicc-President—A. C. Branyon	Fayette
Secretary-Treasurer-J. H. Ashcraft	Fayette
County Health Officer-J. H. Ashcraft	Favette

Censors—A. C. Branyon, Chairman, Fayette; J. D. Scrivner, Berry; D. H. Wright, Berry; A. L. Blakeney, Newtonville; B. W. McNease, Fayette.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Ashcraft, James Harvey, mc Ala. 05, cb Pickens 05, Fayette.

Barber, Homer Douglas, mc LSU 35, recip. Ga. 39, Fayette. (S.)

Blakeney, A. Lanthus, mc Grant 07, cb Lamar 07, Newtonville.

Branyon, A. Curt, mc Memphis Hosp. 03, cb Lamar 03, Fayette.

McNease, Benjamin W., mc Pa. 24, sb 25, Fayette. Robertson, John Banks, mc Tulane 34, sb 35, Fayette. Scrivner, J. D., mc Ala. 14, sb 14, Berry.

Stewart, Guy E., mc Ala. 04, cb Walker 04. Fayette. Wright, David H., mc Vanderbilt 08, sb 08, Berry. Total 9

PHYSICIANS NOT MEMBERS

Young, James D., mc Memphis Hosp. 94, cb Lamar 94, Fayette. (Retired.) Total 1

(30) FRANKLIN COUNTY Tuscaloosa 1887

President—Price Clayton Russellville
Vice-President—T. J. Glasgow Russellville
Secretary-Treasurer—N. P. Underwood Russellville
County Health Officer—N. P. Underwood Russellville

Censors—Price Clayton, Chairman, Russellville; F. R. Underwood, Red Bay; A. J. Underwood, Spruce Pine; O. O. Underwood, Phil Campbell.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Burns, John Dowdy, mc Tenn. 26, sb 26, Russellville. (S.) Clayton, Price, mc Tulane 27, sb 27, Russellville. Craig, William J., mc Tulane 25, recip. La. 37, Russellville. Flippo, La Faun N., mc Ala. 04, cb 07, Hodges. Frederick, Ralph H., mc Univ. Tenn. 31, recip. Tenn. 38, Phil Campbell.

Glasgow, Thomas Jefferson, mc Ala. 10, sb 10, Russellville. Gresham, Walter Asa, mc Vanderbilt 00, cb 00, Russellville.

McCullar, James A., mc Vanderbilt 99, cb Winston 99, Russellville.

Snoddy, Samuel J., mc Emory 24, sb 24, Russellville.Spruell, William Hugh, mc Tenn. 34, recip. Tenn. 35, Russellville. (S.)

Underwood, Andrew Jackson, mc Ala. 99, cb 01, Spruce Pine.

Underwood, Floyd R., mc Ala. 12, sb 12, Red Bay. Underwood, Naomi Price, mc Grant 06, cb 06, Russellville. Underwood, Oscar O., mc Chattanooga 04, cb 04, Phil Campbell.

Waldrep, Archie C., mc Louisville 93, cb 93, Red Bay.
Weatherford, Zadoc L., mc Tenn. 14, sb 16, Red Bay.
Wilson, William E., mc Tulane 24, recip. Tenn. 26, Russellville. (S.)

Total 17

PHYSICIANS NOT MEMBERS

None

(31) GENEVA COUNTY Montgomery 1888

President—J. W. Beasley	
Vice-President—H. C. Riley Coffee	
Secretary-Treasurer—E. T. Brunson	
County Health Officer—G. L. Weidner*	Geneva

^{*}See also Coffee County.

Censors—C. P. Gay, Chairman, Geneva; H. K. Tippins, Geneva; J. W. Beasley, Gcneva; H. C. Riley, Coffee Springs; I. L. Johnston, Samson.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Beasley, James W., mc Ala. 96, cb Pike 96, Gcneva. Brunson, Emmett T., mc Emory 21, sb 21, Samson. Gay, Coleman P., mc Atlanta Southern 97, cb Randolph 97, Geneva.

Johnston, Ira L., mc Memphis Hosp. 03, cb Pike 03, Sam-

Kelly, Alto Leon. mc Aia. 17, sb 18, Veterans' Bureau, Excelsior Springs, Mo.

Lewis, Benj. J., mc Ala. 99, cb Coffee 99, Veterans' Facility, Montgomery.

McEachern, Conley Pinkney, mc Ala. 96, cb Pike 96, Geneva.

Riley, Henry Clayton, mc Memphis Hosp. 03, cb Henry 03, Coffee Springs.

Stephens, Dudley D., mc Ala. 95, cb Dale 95, Slocomb. Tankersley, Ernest, mc Louisville 07, cb Crenshaw 07, Samson.

Tippins, Henry K., mc Chicago P. & S. 08, sb 08, Geneva. Tippins, James R., mc Chicago P. & S. 12, sb 14, Hartford. Vaughan, Angus Edwin, mc Louisville 05, cb 05, Geneva, Rt. 2.

Williams, Keller Bell, mc Univ. South 07, sb 08, Hartford. Windham, Samuel W., mc Washington Univ. 38, recip. Mo. 40, Geneva. (S.)

Total 15

PHYSICIANS NOT MEMBERS

Bedsole, James, mc Ga. Eclectic 06, cb 06, Hacoda.
Fleming, John C., mc Ala. 91, cb 95, Hartford.
Swords, Merrick W., mc Tulane 07, recip. La. 43, Slocomb.
Townsend, Alfred L., mc Univ. Nashville 99, cb Pike 99,
Hartford.

Total 4

(32) GREENE COUNTY Selma 1879

President—D. H. Trice	Boligee
Vice-President—H. B. Klie	. Forkland
Secretary-Treasurer—J. P. Smith	Eutaw
County Health Officer—E. M. Moore*	Eutaw

Censors—D. H. Trice, Chairman, Boligee; H. B. Klie, Forkland; J. P. Smith, Eutaw; R. S. Lucius, Eutaw.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Klie, H. B., mc Tulane 00, cb Marengo 00, Forkland. Lucius, Richard Spurgeon, mc P. & S. Atlanta 04, cb 04, Eutaw.

Minot, Dobbs, mc Tulane 35, sb 35, Eutaw. (S.)
Smith, Joe P., mc Emory 34, recip. Miss. 36, Eutaw.
Snelling, David B., mc Harvard 29, recip. S. C. 35, Eutaw.
(S.)

Trice, Daniel Hall, mc Louisville 03, cb Choctaw 03, Boligee.

Total 6

PHYSICIANS NOT MEMBERS

Legare, Julien Kent, mc Univ. N. Y. 86, cb 87, Forkland. Moore, George Amos, mc Ala. 90, cb Wilcox 90, Eutaw. Thetford, Samuel Lewis, mc Tulane 06, sb Louisiana 06, Boligee.

Total 3

*See also Sumter County.

(33) HALE COUNTY

Montgomery 1875

President—I. H. Griffin	Moundville
Vice-President C. K. Smith	Grechsboro
Secretary-Treasurer—I. N. Jones	Greensboro
County Health Officer—I. N. Jones	Greensboro

Censors—T. J. Anderson, Chairman; Greensboro; C. K. Smith, Greensboro; E. T. Norman, Greensboro; I. H. Griffin, Moundville; T. P. Abernathy, Moundville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Abernathy, Thomas Pennie, mc Memphis Hosp. 99, cb 99. Moundville.

Anderson, Thos. J., mc Tulane 22, sb 22, Greensboro. Elliott, Benjamin F., mc Ala. 12, sb 12, Moundville, Griffin, Irvin H., mc Tulane 34, sb 35, Moundville. Jones, Isaac N., mc Ala. 09, sb 10, Greensboro. Norman, Eldridge T., mc Emory 26, sb 26, Greensboro. Smith, Clarence K., mc Ala. 09, sb 09, Greensboro.

PHYSICIANS NOT MEMBERS

Henry, Julius G., mc Univ. Nashville 06, cb St. Clair 06, Akron.

Wiley, James W. (col.), mc Illinois 05, sb 05, Greensboro Total 2

(34) HENRY COUNTY Montgomery 1883

President-C. T. Jones	Newville
Vicc-President—S. L. Burdeshaw	Headland
Secretary-Treasurer—R. H. Allen	Abbeville
County Health Officer—R. H. Allen	Abbeville

Censors—T. J. Floyd, Chairman, Abbeville; C. T. Jones, Newville; C. T. Martin, Headland; S. L. Burdeshaw, Headland; L. P. Shell, Abbeville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Allen, Ralph H., mc Atlanta 14, sb 27, Abbeville.
Burdeshaw, Shelby L., mc Univ. Nashville 08, sb 08, Head-

Floyd, Thomas J., mc Tulane 07, cb Houston 07, Abbeville. Jones, Carl T., mc Ala. 17, sb 17, Newville. Martin, Carl T., mc Univ. Ga. 26, recip. Ga. 36, Headland.

(S.) Scott, Marvin, mc Ala. 05, cb 05, Headland. Shell, L. P., mc Vanderbilt 05, cb Butler 06, Abbeville. Whigham, Arthur L., mc Ala. 10, sb 11, Newville.

Total 8

PHYSICIANS NOT MEMBERS

Scott, Walter, mc Atlanta 10, sb 14, Headland. Total 1

(35) HOUSTON COUNTY Talladega 1903

President—T. K. McFatter	Dothan
Vice-President-L. Hilson	Dothan
Secretary-Treasurer—W. T. Burkett	Dothan
County Health Officer-W. T. Burkett	Dothan

Censors—J. A. Campbell, Chairman, Dothan; S. G. Latiolais, Dothan; L. Hilson, Dothan; I. C. Bates, Dothan; W. H. Turner, Dothan.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Allen, Joseph W., mc Tulane 31, recip. La. 36, Dothan.

Andress, David G., mc Chattanooga 04, cb Cullman 04, Madrid.

Bates, Irby Clyde, mc Ala. 11, sb 11, Dothan.

Burdeshaw, Henry B., mc Tulane 16, sb 19, Dothan. Burkett, Wyatt Thomas, mc Tulane 09, sb 17, Dothan.

Campbell, James A., mc Okla. 15, sb 20, Dothan.

Cannady, Nicholas B., mc Jefferson 12, recip. N. C. 23, Dothan.

Chalker, Benjamin C., mc Georgia Eclectic 97, cb Geneva 97, Dothan.

Crawford, Robert D., Jr., mc Emory 30, pro forma USN 32, Dothan.

Davie, Mercer Stillwell, mc Tulane 09, cb 09, Dothan. Ellis, John Thomas, mc Emory 16, sb 17, Dothan.

Fowler, James T., mc S. C. 83, cb Henry 83, 2845 Carlisle Rd., Birmingham.

Granger, Frank G., mc Atlanta P. & S. 12, sb 12, Ashford. Haisten, Douglas C., mc Vanderbilt 28, sb 29, Dothan. Hicks, Dorman Marvin, mc Louisville 06, cb Pike 06. Cottonwood

Hilson, Lewis, mc P. & S. Atlanta 09, sb 09, Dothan. Keyton, J. Arthur, mc Tulane 16, sb 16, Dothan. Latiolais, Sydney G., mc Tenn. 31, recip. Tenn. 35, Dothan. Mazyck, Arthur, mc Univ. Va. 31, recip. Va. 34, Dothan. McFatter, Theron K., mc Tulane 29, recip. La. 31, Dothan. Moody, Earl F., mc Tulane 03, sb 03, Dothan. Pruett, David P., mc Ala. 06, cb Bullock 06, Columbia.

Rowe, Mason C., mc Va. 35, recip. Va. 39, Dothan. (S.)
Thacker, Vincent J., mc Tulane 25, recip. La. 27, Dothan.
Turner, Wilson H., mc Northwestern 28, recip. Miss. 31,
Dothan.

Wilkinson, John G., mc Tenn. 02, cb Tuscaloosa 02, Cottonwood.

Woods, Thomas B., mc Tulane 33, sb 33, Dothan. (S.) Yarbrough, John Fletcher, mc Atlanta 92, cb Henry 92, Montgomery.

Total 28

PHYSICIANS NOT MEMBERS

Dasher, John M. (col.), mc Meharry 29, recip. Ga. 40, Dothan.

Flowers, James H., mc Baylor 05, cb 05, Newton, RFD. Lanford, Walter B., mc Ala. 06, cb Crenshaw 06, Columbia. Newsome, Mixon L. (col.), mc Meharry 27, recip. Tenn. 28, Dothan.

Pate, Walter E., mc Atlanta 93, cb 93, Ashford.

Ryalls, William Mann, mc Atlanta 87, cb Henry 97, Ashford.

Total 6

(36) JACKSON COUNTY Mobile 1882

President-M. H. Lynch	Scottsboro
The state of the s	Scottsboro
Secretary-Treasurer—S. P. Hall	Scottsboro
County Health Officer—E. N. Haller*	Scottsboro

Censors—Julian Hodges, Chairman, Scottsboro; E. L. Trammell, Dutton; M. H. Lynch, Scottsboro; G. E. Nye, Scottsboro; Rayford Hodges, Scottsboro.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Browder, Ernest A., mc Tenn. 36, recip. Tenn. 37, Stevenson.

Hall, Samuel P., Jr., mc Univ. Ga. 34, recip. Ga. 36, Scotts-boro.

Hartung, Carl F., Jr., mc Grant 06, cb Cullman 06, Bridgeport.

*See also DeKalb County.

Hodges, E. Julian, mc Emory 34, sb 34, Scottsboro.

Hodges, Rayford, mc Ala. 15, sb 15, Scottsboro.

James, Samuel H., mc Chattanooga 06, cb 06, Veterans' Hospital, Tucson, Arizona.

Lynch, M. H., mc S. C. 28, recip. S. C. 30, Scottsboro.

McCrary, D. W., mc Memphis Hosp. 13, recip. Tenn. 19, Stevenson.

Nyc, George E., mc Chattanooga 06, cb DeKalb 06, Scottsboro.

Trammell, Edward Lee, mc Tenn. 33, recip. Tcnn. 34, Dutton.

Vandiver, Horace G., mc Vanderbilt 15, sb 15, Princeton. Williams, William C., mc Ala. 00, cb Mobile 00, Bridgeport.

Zimmerman, Albert Sidney, mc Univ. South 97, cb Lawrence 98, 14 Commerce St., Montgomery.

Total 13

PHYSICIANS NOT MEMBERS

Breeland, E. E., mc Barnes 03, cb Baldwin 05, Section. Total 1

HONORARY MEMBER

Kirkpatrick, Jerre Williams, mc Vanderbilt 16, sb Tenn. 14, Richard City, Tenn.

(37) JEFFERSON COUNTY Birmingham 1877

President-Kyle J. Kinkead	Birmingham
Vice-President-Stewart H. Welch	Birmingham
Secretary-Treasurer—J. A. Ferry	Birmingham
County Health Officer-G. A. Denison	Birmingham

Censors—A. A. Walker, Chairman, Birmingham; J. W. Simpson, Birmingham; S. W. Collier, Birmingham; Ralph Morgan, Birmingham; Edward O'Connell, Birmingham.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Adams, Montague S., mc Tulane 38, sb 39, 1605 Graymont Avenue, Birmingham.

Akin, John M., mc Emory 25, sb 26, 1117 W. 8th Ave., Birmingham.

Allgood, Homer Wilson, mc Ala. 12, sb 12, Fairfield.

Anderson, Henry L., mc Tulane 39, sb 39, Birmingham. (S.)

Andrews, Neal L., mc Tulane 30, recip. La. 31, 2121 Highland Ave., Birmingham.

Anthony, J. C., mc Ala. 09, sb 09, Massey Bldg., Birmingham.

Applebaum, Samuel L., mc Univ. Tenn. 36, recip. Tenn. 39, Woodward Bldg., Birmingham.

Argo, John R., mc Vanderbilt 23, sb 23, Tarrant.

Armour, William S., mc Atlanta P. & S. 13, recip. Ga. 20, 900 S. 20th St., Birmingham.

Ashworth, Robert F., mc Louisville Hosp. 03, sb 03, Comer Bldg., Birmingham.

Atwood, Abner Lowe, mc Univ. Nashville 07, cb Franklin 07, Woodward Bldg., Birmingham.

Barclift, William C., Jr., mc Tenn. 34, recip. Tenn. 37, 1922 S. 10th Ave., Birmingham. (S.)

Becton, James Alvis, mc Vanderbilt 18, recip Tenn 25, Box 2896, Woodlawn, Birmingham.

Beddow, William Henry, mc Tulane 15, sb 15, Med. Arts Bldg. Birmingham.

Bldg., Birmingham. Benson, Ralph C., mc Johns Hopkins 36, recip. Ind. 41,

Medical Arts Building, Birmingham. (S.)

Berrey, Ivan C., mc Rush 25, recip. Ill. 28, 2021 Sixth Avenue North, Birmingham.

Berrey, Ruth R., mc Tulane 28, recip. La. 29, 2021 Sixth Avenue North, Birmingham.

Berry, Robert A., mc S. C. 27, recip. S. C. 32, Woodward Bldg., Birmingham.

Berry, Wm. Thompson, mc Vanderbilt 99, cb 99, Empire

Bldg., Birmingham.

Black, John W., mc Ala. 09, sb 10, 528 19th St., Ensley.

Blanton, Russell, mc Rush 31, sb 31, 2121 Highland Ave., Birmingham.

Blue, James Howard, mc Ala. 13, sb 13, Bossemer.

Boggs, Lloyd K., mc Univ. Ga. 24, recip. Ga. 41, 516 N. 21st Street, Birmingham.

Botta, Louis P., mc Rush 26, recip. Ill. 29, 1917½ Ave. E., Ensley.

Boulware, Thos. M., mc Washington Univ. 26, recip. Tenn. 29, 1601 N. 25th St., Birmingham.

Bradford, Duke C., mc Ala. 14, sb 14, 3121 12th Ave. N., Birmingham. (S.)

Branham, Bolling S., mc Atlanta P. & S. 08, recip. Ga. 19, 916 W. Ninth Ct., Birmingham.

Brannon, Robert M., mc Tulane 22, sb 23, 2121 Highland Ave., Birmingham.

Branscomb, Louise, mc Johns Hopkins 28, Nat. Ex. Bd. 31, Woodward Bldg., Birmingham.

Bristow, Bernard T., mc Tenn. 24, recip. Tenn. 27, Bessemer.

mer. Brown, Hunter M. mc Tulane 34, recip. La. 38, 1117 S. 22

St., Birmingham. (S.) Brown, Morgan W., mc Tulane 27, recip. La. 28, 816 S. W. 6th Street, Birmingham.

Brownlee, Leslie G., mc Okla. 12, sb 16, Protective Life Bldg.. Birmingham.

Burns, William Arthur, mc Memphis 91, cb Lamar 91, Martin Bldg., Birmingham.

Caldwell, Hale Albert, mc Ala. 18, sb 18, 301 S. 41st St., Birmingham.

Callaway, Raymond R., mc Ill. 27, sb 27, Empire Bldg., Birmingham, (S.)

Carmichael, John Leslie, mc Tulane 24, sb 25, 2011 S. 9th Ave., Birmingham.

Carmichael, Josiah N., mc Ala. 13, sb 13, Fairfield.

Carmichael, William M., mc Univ. Nashville 09, sb 07, Fairfield.

Carpenter, Burwell S., mc Ala. 05, cb Pickens 05, Fairfield.

Carraway, Benjamin M., mc LSU 35, sb 35, 1601 N. 25th St., Birmingham.

Carraway, Chas. Newton, mc Ala. 02, cb 02, 1601 N. 25th St., Birmingham.

Carter, Henry Rose, Jr., mc Pa. 08, sb 20, Woodward Bldg., Birmingham.

Carter, Melson Barfield, mc Tulane 21, sb 21, Woodward Bldg., Birmingham,

Casey, Albert Eugene, mc St. Louis Univ. 27, recip. Mo. 42, Jeffcrson Hospital, Birmingham.

Cermak, Emil C., mc Creighton 33, recip. Neb. 36, Truss-ville.

Chamblee, Zachariah Britton, mc Atlanta 00. cb 00, 2601 20th Ave., N., Birmingham.

Chandler, James Robert, mc Ala. 09, sb 11, Bessemer.

Chapman, Jerome Cochran, mc Tulane 23, recip. La. 26, 2160 Highland Avenue, Birmingham.

Cheatham, Thomas Alfred, mc Jefferson 09, sb 10, Frank Nelson Bldg., Birmingham.

Cherry, Alfred, mc Univ. Buffalo 36, recip. Ohio 38, Med. Arts Bldg., Birmingham. (S.)

Chipps, H. Davis, mc Univ. Louisville 34, recip. Ky. 42, Jefferson Hospital, Birmingham. (S.)

Clayton, Edward C., mc Ala. 09, sb 09, Leeds.

Clements, F. H., mc Ala. 17, pro forma USN 19, Med. Arts Bldg., Birmingham.

Cloud, Robert Emmett, mc Tulane 10, sp 09, Ensley.

Clyde, Wallace A., mc Tulane 26, sb 26, 900 S. 20th St., Birmingham.

Cochran, John P., mc Ala. 14, sb 18, 1 So. 55th Place, Birmingham.

Coleman, Grover Cleveland, mc Ala. 11, sb 12, 5049 Parkway, Fairfield.

Coleman, William E., Jr., mc George Washington 34, sb 35, 2121 Highland Avenue, Birmingham.

Collier, Sid. W., mc Univ. Minn. 22, recip. Minn. 24, 900 S. 20th St., Birmingham.

Collins. Chalmers D., mc Louisville 30, sb 30, Massey Bldg., Birmingham. (S.)

Collins, Thomas A., mc Ala. 12, sb 13, Med. Arts Bldg., Birmingham.

Colquitt, Chas. J., mc Emory 23, sb 23, Bessemer.

Comer, Robert T., mc Johns Hopkins 01, cb Bullock 01, Comer Bldg., Birmingham.

Compton, Wheeler Wilkinson, mc Vanderbilt 03, cb 03, Fairfield.

Constantine, Kosciusco Walker, mc Johns Hopkins 05, cb 05, 2820 Berwick Rd., Birmingham.

Conwell, Hugh Earle, mc Ala. 15, sb 15, 216 Med. Arts Building, Birmingham.

Cooley, Beamon S., mc Tenn. 12, sb 12, Woodward Building, Birmingham.

Copeland, Miles A., mc Ala. 03, cb 03, Clark Bldg., Birmingham.

Cornwell, Robert A., mc Jefferson 39, recip. Pa. 41, 1131 N. 28th Street, Birmingham.

Coston, Hamilton Ralls, mc Vanderbilt 89, cb 01, 1338 N. 33rd St., Birmingham.

Coston, Ralls M., mc Okla. 29, recip. Okla. 30, 2012 10th Avenue S., Birmingham. (S.)

Cothran, Robert M., mc Johns Hopkins 26, recip. Md. 41, 1023 S. 20th St., Birmingham.

Coyle, Daniel J., mc Rush 28, sb 30, Woodward Bldg., Birmingham.

Crelly, Harry C., mc Ala. 02, cb Washington 02, Watts Bldg., Birmingham.

Cunningham, Joseph Anthony, mc Univ. Freiburg 35, NBE 42, Hillman Hospital, Birmingham.

Dabney, Marye Y., mc Johns Hopkins 12, sb 12, Woodward Bldg., Birmingham.

Daly, Edgar Wm., mc Tulane 08, sb 10, 627 Woodward Bldg., Birmingham.

Darden, Wm. H., mc Duke 32, recip. Minn. 37, 2640 Pike Avenue, Birmingham. (S.)

Davenport, L. Orton, mc Western Reserve 09, recip. Col. 26, Birmingham, Rt. 2.

Davidson, Alton W., mc Emory 29, sb 29, Realty Bldg., Besscmer.

Davidson, Marion Tabb, mc Univ. Cincinnati 11, sb 12, Medical Arts Bldg., Birmingham. (S.)

Dean, Leon, mc Ala. 13, sb 14, Ensley.

Deaver, Clyde Wilson, mc Vanderbilt 17, recip. Tenn. 19, Empire Bldg., Birmingham.

Deaver, Wilson T., mc Ala. 15, sb 16, Adamsville, Rt. 2. Dedman, James E., mc Univ. Tenn. 90, cb 98, Betterton,

Denison, Geo. A., mc Baylor 30, sb 30, City Hall, Birmingham.

Denson, Fred Hammond, mc Ala. 12, sb 13, Bessemer.

Donald, Charles J., mc Tulane 36, sb 36, 918 S. 20th St., Birmingham.

Donald, Dan Caldwell, mc Tulane 09, sb 11, 918 S. 20th St., Birmingham.

Donald, Joseph M., mc Tulane 25, recip. Minn. 32, 918 S. 20th St., Birmingham. (S.)

Donald, Thomas C., mc Ala. 97, cb Butler 97, 918 S. 20th St., Birmingham.

Donnelly, Charles Augustus, mc Ohio 08, sb 10, Watts Bldg., Birmingham.

Douglas, Gilbert F., mc Ala. 10, sb 10, 1111 S. 20th St.,

Birmingham.
Douglass, John, mc Ala. 00, cb Lauderdale 01, Comer

Bldg., Birmingham. Dowling, Judson Davie, mc Ala. 11, sb 11, 1031 S. 26th

Street, Birmingham.

Drennen, Earle, mc P. & S. N. Y. 06, sb 05, 2160 Highland Ave., Birmingham.

Durrett, Ebb Brown, mc Ala. 12, sb 12, Bessemer.

Edwards, Elwart H., mc Univ. Tenn. 39, recip. Tenn. 41, Leeds.

Edwards, Jesse E. H., mc Univ. Nashville 08, sb 12, McCalla.

Elgin, C. E., mc Univ. Nashville 05, sb 07, Praco.

- Elkourie, Haickel A., mc Univ. Nashville 01, cb 06, 1625 South 12th Avenue, Birmingham.
- Elkourie, Leo A., mc Rush 29, sb 31, 1625 South 12th Avenue, Birmingham.
- Falletta, Pasqualino T., mc Tulane 26, sb 26, Massey Bldg., Birmingham.
- Farmer, H. R., mc Tulane 22, sb 22, Fairfield.
- Farrar, William C., mc Ala. 08, sb 08, Box 2866, Woodlawn Station, Birmingham.
- Ferguson, Burr, mc Columbia 96, sb 13, 4243 Altamont Rd., Birmingham.
- Ferry, James A., mc Tulane 32, sb 32, Medical Arts Bldg., Birmingham.
- Fisher, Gilbert E., mc Univ. Mich. 36, recip. Mich. 40, Medical Arts Building, Birmingham.
- Fonville, Wm. Drakeford, mc Tulane 04, cb Wilcox 05, 929 S. 20th St., Birmingham.
- Ford, C. H., mc Emory 27, sb 27, Med. Arts Bldg., Birmingham.
- Foster, John McKelvy, mc Memphis Hosp. 10, recip. Miss. 22, 1346½ Tuscaloosa Ave., Birmingham.
- Fox, Bertram Arthur, mc Ala. 96, cb 96, Chamber of Commerce Bldg., Birmingham.
- Fox, Carl Alexander, mc Tulane 00, cb 00, Brown-Marx Bldg., Birmingham.
- Frantz, William E., mc Tulane 37, recip. La. 39, 1296 Engleside Dr., Baton Rouge, La.
- Gaines, Cecil Dean, mc Ala. 11. sb 11, Woodward Bldg., Birmingham.
- Gaines, H. F., mc Emory 22, sb 23, 5060 Parkway, Fairfield.
- Garber, James R., mc Jefferson 13, sb 13, 1117 S. 22nd St., Birmingham.
- Garlington, William H., mc Louisville 21, recip. Ky. 25, 5353 N. First Ave., Birmingham.
- Garmon, Clyde N., mc Ala. 14, sb 15, Rt. 2, Bessemer.
- Garrison, John Earl, mc Ala. 04, cb Walker 04, Woodward Bldg., Birmingham.
- Gehrken, Henry S., mc Ga. 09, recip. Ga. 29, 1601 N. 25th St., Birmingham. (S.)
- Gelperin, Jules, mc Univ. Cincinnati 37, recip. Ohio 39, Woodward Bldg., Birmingham. (S.)
- Gillespy, Robert R., mc Tulane 22, sb 22, 4403 Overland
- Road, Birmingham (S.) Givhan, Edgar G., Jr., mc Jefferson 28, sb 29, Med. Arts Bldg., Birmingham. (S.)
- Glasgow, Robert D., mc Emory 40, sb 40, Employees' Hospital, Fairfield.
- Glasgow, Robert S., mc Univ. South 00, cb Shelby 00, Adamsville.
- Glaze, Andrew L., Jr., mc Vanderbilt 12, sb 13, Med. Arts Bldg., Birmingham.
- Goldner, Harry, mc Univ. Pa. 37, sb 37, 2121 Highland Avenue, Birmingham.
- Goldstein, Ben, mc Emory 22, sb 22, 2160 Highland Ave., Birmingham.
- Goodall, Albert G., mc Vanderbilt 26, recip. Tenn. 27, Martin Bldg., Birmingham.
- Gordon, George R., mc Jefferson 35, recip. Pa. 40, 2121 Highland Avenue, Birmingham. (S.)
- Green, Albert H., mc Tenn. 28, recip. Tenn. 30, Woodward Bldg., Birmingham. (S.)
- Green, Elbert Paul, mc Ala. 11, sb 12, 1200 Graymont Ave., Birmingham.
- Green, Roy C., mc Tulane 30, sb 30, 5357 1st Avenue North, Birmingham.
- Greene, Gilbert B., mc Tulane 32, sb 34, Woodward Bldg., Birmingham. (S.)
- Griffin, George W., mc LSU 38, recip. La. 39, 2501 N. 16th Ave., Birmingham. (S.)
- Habeeb, Alfred, mc Univ. Tenn. 38, recip. Miss. 41, Employees' Hospital, Fairfield.
- Hairston, Wm. George, mc Md. 04, sb 04, 1504 N. 33rd Ave., Birmingham.
- Hamrick, Robert A., mc Johns Hopkins 23, recip. Md. 29, 1325 W. 45th Street, Birmingham. (S.)

- Hamrick, Robert Hampton, mc Atlanta 95, cb Blount 96, Watts Bldg., Birmingham.
- Hankins, Gordon M., mc Tulane 36, sb 36, Employees' Hospital, Fairfield. (S.)
- Hardy, Walter B., mc Tulane 12, sb 12, 2121 Highland Ave., Birmingham.
- Hargis, Albert S., Jr., mc Tulane 34, sb 34, 1431 44th Street, W., Birmingham. (S.)
- Hargis, Estes H., mc Pa. 21, recip. Pa. 27, 1131 N. 28th St., Birmingham.
- Harris, Arthur Buckner, mc Univ. Va. 02, cb 03, Med. Arts Bldg., Birmingham.
- Harris, Charlton, mc Ala. 14, sb 14, Sayreton.
- Harris, Edward A., mc Wash. Univ. 37, sb 37, Westfield Dispensary, Fairfield.
- Harris, Esau A., mc Univ. South 98, cb St. Clair 98, 221 Realty Building, Bessemer.
- Harris, Farley W., mc Ala. 09, sb 10, Woodward Bldg., Birmingham,
- Harris, Herbert A., mc Ala. 14, sb 14, Woodward Bldg., Birmingham.
- Harris, Seale, mc Univ. Va. 94, sb 94, 2234 Highland Ave., Birmingham.
- Harris, Seale, Jr., mc Johns Hopkins 26, recip. Md. 27, 2234 Highland Ave., Birmingham. (S.)
- Harrison, William Groce, mc Md. 92, cb Talladega 92, 1922 10th Avenue S., Birmingham.
- Haun, Chas. A., mc Vanderbilt 23, recip. Tenn. 25, T. C. I. Dispensary, Ensley.
- Hays, J. Howard, mc Ala. 14, sb 14. Comer Bldg., Birmingham.
- Heacock, Joseph Davis, mc Tulane 92, cb 92, 2021 6th Ave. N., Birmingham.
- Heath, Merritt J., mc Ala. 13, sb 13, Ensley.
- Heflin, Wyatt, mc Jefferson 84, cb Randolph 85, 3216 Cliff Rd., Birmingham.
- Henderson, Hiliary Herbert, Jr., mc Tulane 38, recip. La. 42, Employees' Hospital, Fairfield.
- Hightower, Russell G., mc Rush 36, sb 36, Employees Hospital, Fairfield. (S.)
- Hillhouse, John L., mc Vanderbilt 29, recip. Tenn. 30, Med. Arts Bldg., Birmingham.
- Hirsh, Joseph E., mc Pa. 22, sb 23, Med. Arts Bldg., Birmingham.
- Hogan, Edgar Poe, mc Ala. 09, sb 08, 920 S. 20th St., Birmingham.
- Hogan, George Archibald, mc Ala. 96, cb 96, 920 S. 20th
- St., Birmingham. Hogan, John Frank, mc Ala. 03, cb 03, 2212 Ridge Park
- Avenue, Birmingham. Hogan, Marshall D., mc Rush 27, sb 27, 311 W. Main St.,
- Boonton, N. J.
- Hogan, Robert Elias, mc Ala. 01, cb Bibb 01, Ensley.
- Horn, Joseph R., Jr., mc Tulane 23, recip. La. 24, Bessemer.
- Horn, Samuel Wilson, mc Emory 16, sb 17, Bessemer.
- Hubbard, Lex Walter, mc Jefferson 11, sb 14, Tarrant.
- Hughes, Brady A., mc Jefferson 27, recip. Pa. 36, Tarrant.
- Hutto, A. S., mc Ala. 15, sb 15, Pinson. Irwin, Winston H., mc Univ. Okla. 37, sb 38, 1601 N. 25th
- St., Birmingham. (S.) Issos, Demetrius N., mc Vanderbilt 27, sb 28, Woodward
- Bldg., Birmingham. Jackson, Harry Lee, mc Ala. 18, sb 18, Empire Bldg.,

Birmingham.

- Jenkins, John F., mc Ala. 01, cb Mobile 01, 3536 27th Street N., Birmingham.
- Jenkins, John F., Jr., mc Tulane 31, sb 31, 2121 Highland Avenue, Birmingham. (S.)
- Avenue, Birmingham. (S.)

 Johns, Lemuel J., mc Ala. 14, sb 14, Massey Bldg., Birm-
- ingham.

 Johnston, Hardee, mc Univ. Va. 95, cb 96, 2121 Highland

 Ave., Birmingham.
- Jones, Walter C., mc Northwestern 02, sb 18, 2330 Highland Avenue, Birmingham.
- Jones, W. Nicholson, mc Tulane 27, recip. La. 29, Woodward Bldg., Birmingham.

- Jordan, Jno. Sheffield, mc Emory 25, sb 25, 5357 N. First Ave., Birmingham. (S.)
- Jordan, William Mudd, mc P. & S. N. Y. 95, cb 95, 2772 Hanover Circle, Birmingham.
- Joseph, Kellie N., mc S. C. 29, recip. Ga. 35, Woodward Bldg., Birmingham.
- Justice, John D., mc Emory 33, recip. Ga. 36, 3616 Bessemer Rd., Birmingham.
- Kahn, Sigmond A., mc Tulane 29, recip. La. 31, 2160 Highland Ave., Birmingham. (S.)
- Kennedy, Frank F., mc Tulane 31, recip. La. 35, 2012 S. 10th Avenue, Birmingham. (S.)
- Kennedy, Hughes, Jr., mc Harvard 21, sb 23, Highland Plaza Apts., Birmingham.
- Kesmodel, Karl F., mc Tulane 16, sb 16, Med. Arts Bldg., Birmingham.
- Kimbrough, Ralph M., mc Chicago M. & S. 17, recip. Ill. 23, Powderly.
- Kincannon, Leroy T., mc Va. 20, sb 21, Woodward Bldg.,
- Birmingham. King, Chas. O., mc Vanderbilt 09, sb 09, Med. Arts Bldg.,
- Birmingham. Kinkead, Kyle Johnston, mc Tulane 15, sb 17, Empire
- Bldg., Birmingham. Kirby, Lelias E., mc Emory 26, sb 26, 5357 N. First Ave.,
- Birmingham. Knight, J. Hurley, mc Emory 31, sb 31, 20 N. 55th Place,
- Birmingham.

 Lamar, Clifford L., mc Harvard 20, sb 20, 1922 10th Ave.
- S., Birmingham. Langdon, Harold R., mc Queen's Univ. 38, recip. N. Y. 40,
- Langdon, Harold R., mc Queen's Univ. 38, recip. N. Y. 40
 Mulga.
- Lavender, Claud B., mc Memphis Hosp. 08, sb 09, Fair-field. (S.)
- Ledbetter, Samuel Leonidas, Jr., mc Johns Hopkins 10, sb 10, 939 S. 20th St., Birmingham.
- Leland, Joseph, mc Tulane 04, cb Tuscaloosa 04, 2840 Fairway Drive, Birmingham.
- Lester, Belford S., mc Vanderbilt 07, sb 08, Med. Arts Bldg., Birmingham.
- Lewis, Charles Franklin, mc Tulane 21, sb 22, Woodward Bldg., Birmingham.
- Lewis, Herbert J., mc Ala. 15, sb 16, 1601 Empire Bldg., Birmingham.
- Lewis, Thomas Knight, mc Vanderbilt 12, sb 13, 935 S. 20th St., Birmingham.
- Linder, Browne G., mc Emory 27, sb 27, Woodward Building, Birmingham.
- Linder, Hugh M. C., mc Vanderbilt 32, recip. Tenn. 36, 2021 6th Ave. N., Birmingham.
- Lineberry, Ellis D., mc Univ. Va. 26, recip. Va. 31, 1601 N. 25th St., Birmingham.
- Linn, Julius E., mc Emory 28, recip. Ga. 30, Med. Arts Bldg., Birmingham. (S.)
- Lister, Robert H., mc Ala. 16, sb 16, 1528 N. 29th Street, Birmingham.
- Littlejohn, Wilmot Shipp, mc Emory 21, recip. Ga. 30, Med. Arts Bldg., Birmingham. (S.)
- Livingston, James A., mc Pa. 11, sb 19, Woodward Bldg., Birmingham.
- Locke, W. W., mc Tulane 26, sb 26, Empire Bldg., Birmingham. (S.)
- Long, William H., mc Ga. 27, recip. Ga. 31, Empire Bldg.. Birmingham. (S.)
- Long, William Walker, mc Tenn. 96, sb 03, Lecds Rd., Birmingham.
- Love, John T., mc Ala. 00, cb Morgan 00, 3619 So. Redmont Rd., Birmingham.
- Lovelady, Robert G., mc Ala. 14, sb 15, 5500 1st Ave. N., Birmingham.
- Lucas, Robert L., mc Vanderbilt 32, recip. Tenn. 34, Birmingham. (S.)
- Lull, Cabot, mc Michigan 99, cb Elmore 01, Med. Arts Bldg., Birmingham.
- Lupton, Frank Allemang, mc Johns Hopkins 99, cb 00, 2105 S. 15th Ave., Birmingham.

- MacQueen, James W., mc Rush 25, recip. Ill. 27, Hillman Hospital, Birmingham.
- Magruder, Thomas V., mc Tulane 10, sb 11, Med. Arts Bldg., Birmingham.
- Martin, Henry Floyd, mc Vanderbilt 22, recip. Tenn. 26, Med. Arts Bldg., Birmingham. (S.)
- Martin, Wade A., mc Ala. 08, sb 10, 516 N. 21st St., Birmingham.
- Martz, Harry, mc N. Y. Univ. 33, recip. N. Y. 39, 2121 Highland Ave., Birmingham. (S.)
- Mason, Enoch Marvin, mc Johns Hopkins 06, sb 07, Med. Arts Bldg., Birmingham.
- Mason, James Monroe, mc Tulane 99, cb 99, Med. Arts Bldg., Birmingham.
- May, William Lucius, mc Memphis 97, sb 97, Powhatan.
- McCarn, Oscar C., Jr., mc Tulane 40, sb 40, 2501 N. 16th Avenue, Birmingham. (S.)
- McCrossin, William P., Jr., mc Tulane 16, sb 16, Colorado Springs, Col.
- McDaniel, Joe Crosby, mc Ala. 12, sb 13, Frank Nelson Bldg., Birmingham.
- McDowell, James F. mc Pa. 34, sb 35, Woodward Bldg., Birmingham. (S.)
- McEniry, Edgar P., mc Emory 18, sb 19, Dolomite.
- McGahey, Robert Goodloe, mc Ala. 12, sb 12, Woodward Bldg., Birmingham.
- McGahey, Travis P., mc Tulane 23, sb 24, Woodward Bldg., Birmingham.
- McGehee, Henry T., mc Ala. 04, sb Tuscaloosa 04, 1549 Graymont Avenue, West, Birmingham.
- McGraw, Felix J., inc S. C. 39, recip. S. C. 40, Birmingham. (S.)
- McKinnon, Hector A., mc Ala. 10, sb 10, 1530 Tuscaloosa Ave., Birmingham.
- McLean, Claude Cooper, mc Vanderbilt 08, sb 08, 2012 10th Ave. So., Birmingham.
- McLester, James Bowron, mc Harvard 30, Nat. Bd. Ex. 33, 930 S. 20th St., Birmingham. (S.)
- McLester, James Somerville, mc Univ. Va. 99, cb 02, 930 S. 20th St., Birmingham.
- McQueen, Joseph Pickens, mc Tulane 11, sb 12, Martin Bldg., Birmingham.
- McQuiddy, Robert Clayton, mc Ala. 12, sb 13, Med. Arts Building, Birmingham.
- Meadows, James A., mc Ala. 12, sb 12, Med. Arts Bldg., Birmingham.
- Mehaffey, Jonathan W., mc Ala. 13, sb 13, 7932 1st Ave. N., Birmingham.
- Meyer, Jeroine, mc Johns Hopkins 14, sb 17, Med. Arts Bldg., Birmingham.
- Miles, Nathan E., mc S. C. 34, recip. S. C. 37, Med. Arts Bldg., Birmingham. (S.)
- Miller, Donald A., mc Western Rescrue 37, recip. Ohio 40, 2501 N. 16th Avenue, Birmingham. (S.)
- Miller, James A., mc M. & S. Chicago 13, sb 13, Wylam. (S.)
- Mitchell, Henry Eugene, mc Tenn. 93, cb Blount 93, 2306 N. 21st Ave., Birmingham.
- Mitchell, Sidney A., mc Vanderbilt 30, sb 30, Lewisburg Road, Birmingham, Rt. 7.
- Moore, Chalmers H., mc Johns Hopkins 13, sb 14, Med. Arts Bldg., Birmingham.
- Moore, David S., Jr., mc Ala. 08, cb 08, 1127 S. 12th St., Birmingham.
- Moore, Joseph G., mc Ala. 11, sb 12, 1127 So. 12th St., Birmingham.
- Morgan, John Ralph, mc Tulane 17, sb 17, 900 S. 20th St., Birmingham.
- Morland, H. C., mc Ky. 05, cb Hale 05, 27031/2 30th Ave. N., Birmingham.
- Morris, H. R., mc Univ. Nashville 06, cb St. Clair 06, Rt. 1, Box 470, Birmingham.
- Morton, Benjamin F., mc Rush 32, sb 34, Medical Arts Bldg., Birmingham. (S.)
- Motley, Jewett P., mc Rush 36, sb 36, Ensley. (S.)
- Motley, Samuel D., mc Ky. 03, cb Tallapoosa 03, $600\frac{1}{2}$ 19th St., Ensley.

- Murphy, Grover E., mc Ala. 11, sb 11, First National Building, Birmingham. (S.)
- Nabers, Frank Edmondson, mc Univ. Va. 03, cb 03, Med. Arts Bldg., Birmingham.
- Nabers, Samuel F., mc Tulane 09, sb 08, 4221 S. 12th Ave., Birmingham.
- Neely, Martin G., mc Univ. Va. 25, sb 25, T. C. I. Hosp., Fairfield.
- Neville, Chas. W., mc Vanderbilt 28, recip. Tenn. 29, Flat Creek.
- Newfield, Semon U., mc Rush 26, recip. 1ll. 27, 2012 10th Ave. S., Birmingham.
- Nice, Charles McKinney, mc Pa. 04, cb 05, 1419 Windsor Circle, Birmingham.
- Noland, Lloyd, mc Baltimore 03, pro forma USN 13, Fair-field.
- Norton, Ethelbert Moses, mc Vanderbilt 14, sb 15, 925 7th Street, W., Birmingham.
- Nutter, Robert A., mc Va. 40, recip. Va. 42, 1030 Martin Bldg., Birmingham.
- O'Connell, Edward, mc Bellevue 07, sb 09, Med. Arts Bldg., Birmingham.
- Odom, H. G., mc Tenn. 22, sb 22, Irondale.
- Oliver, John T., mc Tenn. 26, recip. Tenn. 27, 4000 N. 10th Avenue. Birmingham.
- Orton, Allen E., mc Atlanta 08, sb 08, Muscoda Hospital, Bessemer.
- Parsons, Joe L., mc Emory 26, recip. Ga. 27, $610\frac{1}{2}$ 19th St., Ensley.
- Parsons, William C., mc Emory 24, sb 25, Woodward Bldg., Birmingham. (S.)
- Patterson, Richard R., mc Queens Univ. 36, sb 39, Medical Arts Building, Birmingham.
- Patton, William B., mc Johns Hopkins 35, recip. Md. 42, 120 Hanover Road, Homewood, Birmingham. (S.)
- Payne, Brack Coleman, mc Ala. 16, sb 16, Lewisburg.
- Payne, Edmund C., mc Univ. Va. 11, sb 11, New Castle.
- Payne, William N., mc Louisville 33, recip. Miss. 37, Bessemer.
- Pennington, Julius A., mc Tulane 39, recip. La. 40. Rt. 2, Box 188, Bessemer.
- Perry, Ezra B., mc Tulane 38, sb 38, 2000 Dartmouth Avenue, Bessemer. (S.)
- Peters, Urban Jos. Whitehead, mc Pa. 98, cb 00, Med. Arts Bldg., Birmingham.
- Peterson, Edward J., mc Tulane 39, sb 40, 1019 S. 42nd St., Birmingham.
- Pierson, Thomas C., mc Ala. 11, sb 11, Alden.
- Pitts, Edgar B., mc Tulane 35, sb 35, Fairfield.
- Place, Edwin H., mc Wayne Univ. 31, recip. Mich. 42, 1911 4th Avenuc N., Birmingham (S.)
- Pool, Robert McCaughrin, mc Tulane 21, sb 21, Fairfield.
- Poole, William L., mc Tulane 38, sb 38, Detroit, Mich. Pope, Ernest C., mc Emory 19, recip. Va. 20, 2021 6th Ave.
- Pope, Ernest C., mc Emory 19, recip. Va. 20, 2021 6th Ave N., Birmingham.
- Posey, Benjamin F., mc Ala. 10, sb 10, Rt. 3, Box 198, Birmingham.
- Posey, Louis C., mc Harvard 35, sb 35, Med. Arts Bldg., Birmingham. (S.)
- Pow, John R., mc Univ. South 03, cb St. Clair 03, Woodward.
- Prescott, Wm. Ernest, mc Ala. 00, cb Chilton 00, 29½ N. 77th St., Birmingham.
- Prescott, Wm. Ernest, Jr., mc Rush 27, sb 27, 291/2 N. 77th St., Birmingham.
- Pruitt, Elihu Posey, mc P. & S., Atlanta 05, cb Lowndes 05, Kilby, Montgomery.
- Ransom, William Walter, mc Vanderbilt 88, cb 88, Empire Bldg., Birmingham.
- Ray, Emmette C., mc Ala. 18. sb 18, 2012 Avenue F., Ensley.
- Reagan, Cas, mc Tulane 24, recip. Tenn. 25, 1603 43rd Street, Belview Heights, Birmingham.
- Rike, Heber C., mc Tulane 24, sb 25, 1140 41st St., Belview Hts., Birmingham.
- Roberts, Wyatt S., mc Ala. 14, sb 14, Empire Bldg., Birmingham.

- Robertson, Brison Oakley, mc Vanderbilt 18, sb 19, Empire Bldg., Birmingham.
- Robertson, Jarratt P., mc Vanderbilt 23, recip. Tenn. 24, Med. Arts Bldg., Birmingham.
- Robinson, Edward B., Jr., mc Tulane 36, sb 36, Fairfield. (S.)
- Roscoe, Goeffrey J., mc Univ. Budapest 36, sb 37, Bessemer.
- Rosser, Wm. Jas., mc Tulane 25, sb 25, Comer Bldg., Birmingham.
- Rountree, Walter B., mc Vanderbilt 27, recip. Tenn. 30, Thomas Sta., Birmingham.
- Routledge, H. W., mc Louisville 28, recip. Ky. 29, 2620 33rd Avenue North, Birmingham.
- Rucker, Edmond W., Jr., mc Univ. Denver 04. sb 08. Woodward Bldg., Birmingham.
- Rudulph, Charles Murray, mc Ala. 00, cb Lowndes 00, 1200 S. 20th St., Birmingham.
- Russell, Richard O., mc Tulane 22, sb 22, 2011 S. 9th Ave., Birmingham.
- Schapiro, Mark M., mc George Washington 38, NBE 41, TCI Emergency Disp., Ensley. (S.)
- Scofield, Theodore F., mc Tulane 26, sb 26, 918 S. 20th St., Birmingham.
- Scott, Edgar Marvin, mc Ala. 01, cb Walker 01, 935 S. 20th St., Birmingham.
- Scott, Edgar M., Jr., mc Harvard 34, recip. Tenn. 37, 935 S. 20th St., Birmingham. (S.)
- Scott, Walter F., mc Univ. Va. 04, cb 07, Med. Arts Bldg., Birmingham.
- Seay, Jas. E., mc Tenn. 27, recip. Tenn. 28, Shades Mountain, Birmingham.
- Seibold, James L., mc Tulane 21. sb 21, 1117 S. 22nd St., Birmingham.
- Sellers, Henry Graham, mc Vanderbilt 00, cb Morgan 00, $1346\frac{1}{2}$ Tuscaloosa Ave., Birmingham.
- Sellers, Ira Jackson, mc Vanderbilt 97, cb 97, Chamber of Commerce Bldg., Birmingham.
- Sellers, William David, mc Atlanta P. & S. 02, sb 02, Martin Bldg., Birmingham.
- Shannon, Paul W., mc Mich. 31, recip. Mich. 36, Woodward Bldg., Birmingham.
- Sherrill, John D., mc Ala. 15, sb 17, Med. Arts Bldg., Birmingham.
- Shropshire, Courtney William, mc Tenn. 00, cb Limestone 03, Frank Nelson Bldg., Birmingham.
- Shugerman, Harry P., mc Johns Hopkins 08, sb 08, 2121 Highland Ave., Birmingham.
- Sibley, Barney Dunbar, mc Ala. 98, cb Walker 99, Empire Bldg., Birmingham.
- Simon, Harold E., mc Univ. Pittsburg 22, recip. Pa. 27, 2930 N. 12th Ave., Birmingham. (S.)
- Simpson, John W., mc Vanderbilt 18, recip. Tenn. 22, 1117
- So. 22nd St., Birmingham. Sims, Albert G., mc Univ. Nashville 05, cb Talladega 05,
- Edgewater Mines, Rt. 8, Birmingham. Siniard, Emmett Clarence, mc Vanderbilt 17, recip. Ky.
- 20, Acipco Dispensary, Birmingham. Smith, Charles Henry, mc Ala. 03, sb 03, 3147 Norwood
- Blvd., Birmingham. Smith, D. Driver, mc Tulane 35, recip. La. 38, 1207 S. 21st
- Place, Birmingham. (S.)
 Smith, Elisha B., mc Ala. 12, sb 14, 1601 N. 25th St., Birmingham.
- Smith Frank Campbell, mc Ala. 03, cb 03, Bessemer.
- Smith, Greene H., mc Tenn. 16, sb 16, Ramsey Bldg., Ensley.
- Smith, Henry Ralph, mc Tulane 25, sb 25, 2011 S. 9th Ave., Birmingham. (S.)
- Smith, James Clement, mc Ala. 11, sb 11, 201 N. 77th St., Birmingham.
- Smith, Thos. Luther, mc Tulane 23, sb 23, 201 N. 77th St., Birmingham.
- Smith, Virgil D., mc Okla. 34, recip. Okla. 38, Leeds. (S.)
- Snow, James S., mc Univ. Col. 34, sb 35, Woodward Building, Birmingham. (S.)

- Snow, John W., Jr., mc Chattanooga 07, cb Walker 07, Palos
- Somerset, Sterling M., mc Emory 27, sb 27, 5385 First Avenue North, Birmingham.
- Sorrell, Lewis E., mc Ala. 17, sb 17, 1601 N. 25th St., Birmingham.
- Sparks, David Hoyt, mc Tulane 12, sb 13, 831 3rd Ave. W., Birmingham.
- Spies, Tom D., mc Harvard 28, recip. Ohio 40, Hillman Hospital, Birmingham.
- Springer, Homer C., mc Okla. 31, recip. Okla. 32, 630 N. 19th Street, Bessemer.
- Stabler, A. L., me Vanderbilt 09, sb 08, Martin Bldg., Birmingham.
- Stayer, Glenn, mc Duke 34, NBE 41, Woodward Building, Birmingham.
- Stewart, J. Jones, mc Tulane 36, recip. La. 38, 3422 Norwood Blvd., Birmingham.
- Stewart, Roddie L., mc Tenn. 34, recip. Tenn. 36, Bessemer. (S.)
- Stockton, Frederick Eugene, mc Tulane 11, sb 19, Comer Bldg., Birmingham.
- Stone, John J., mc Emory 37, recip. Ga. 41, TCI Dispensary, Pratt City.
- Stubbins, Samuel Gaines, mc P. & S. St. Louis 07, cb 07, 2121 Highland Ave., Birmingham.
- Stuteville, Ethel, mc Univ. Ind. 21, recip. Ind. 41, Jefferson Hospital, Birmingham.
- Sweeney, Donald B. P., mc Univ. Iowa 40, recip. Iowa 41, 1131 N. 28th Street, Birmingham.
- Talley, Dyer Findley, mc Tulane 92, cb 92, 1601 N. 25th St., Birmingham.
- Terhune, S. Ralph, mc Tulane 30, sb 30, 2160 Highland Avenue, Birmingham. (S.)
- Terrill, James W., mc Ala. 13, sb 13, 3120 Avenue H, Ens-
- Thuss, Chas. J., mc Vanderbilt 31, recip. Tenn. 34, 2230 N.
- 3rd Avenue, Birmingham. Thuss, William G., mc Vanderbilt 20, recip. Tenn. 23, 2230
- N. 3rd Avenue, Birmingham. Timberlake, Landon, mc Md. 34, recip. Md. 37, 2121 High-
- land Avenue, Birmingham. (S.)
 Townsend, John M., mc Mich. 30, recip. Mich. 37, U. S.
- Navy, Birmingham. (S.) Troje, Oscar R., mc Univ. Kansas 07, sb 13, Fairfield.
- Trucks, J. Frank, mc Washington Univ. 36, sb 36, 103 N. 55th St., Birmingham. (S.)
- Tucker, Easter W., mc Ala. 13, sb 14, P. O. Box 593, Fairfield.
- Turlington, Lee F., mc Pa. 14, sb 15, 1922 10th Ave. S., Birmingham.
- Tyler, Richard E., mc Emory 28, sb 28, 1601 N. 25th St., Birmingham.
- Underwood, S. Sellers, mc Tulane 17, sb 17, Med. Arts Bldg., Birmingham.
- Vance, James Glenn, mc Ala. 05, cb Tuscaloosa 05, Massey Bldg., Birmingham.
- Wainwright, Samuel P., mc Tulane 22, sb 23, 2121 Highland Avenue, Birmingham. (S.)
- Waldrop, R. W., mc Louisville 96, cb 97, Bessemer.
- Walker, Alfred A., mc Cornell 05, cb 05, Highland Plaza Apts., Birmingham.
- Wallace, Samuel H., mc Ala. 11, sb 11, 9 N. 55th St., Birmingham.
- Walsh, Groesbeck F., mc Northwestern 02, sb 13, Fairfield.
- Ward, Henry Silas, mc Univ. Nashville 98, cb Blount 99, 1601 N. 25th St., Birmingham.
- Ward, James Alto, mc Johns Hopkins 18, sb 19, 2021 N. 6th Ave., Birmingham.
- Ward, Walter Rowland, mc Chattanooga 00, cb Tuscaloosa 00, Martin Bldg., Birmingham.
- Warren, William E., mc Ala. 05, cb DeKalb 05, 2704 Ensley Ave., Ensley.
- Warrick, Geo. W., mc Rush 33, sb 34, Med. Arts Bldg., Birmingham. (S.)

- Warrick, William D., mc Rush 34, sb 35, Med. Arts Bldg., Birmingham. (S.)
- Watkins, Miles A., mc Tulanc 09, sb 10, Comer Bldg., Birmingham.
- Watterston, Charles, mc Tulane 09, sb 11, Empire Bldg., Birmingham.
- Weincr, Harry, mc Univ. Minn. 32, recip. Minn. 36, 2121 Highland Avenue, Birmingham. (S.)
- Welch, Oliver W., mc Harvard 33, sb 37, Huntsville. (S.)
- Welch, Stewart H., mc Cornell 07, sb 10, 1117 S. 20th St., Birmingham.
- West, Otus T., mc Northwestern 40, sb 40, Employees' Hospital, Fairfield.
- Wiley, Clarence C., mc Baltimore 08, sb 09, Woodward Bldg., Birmingham.
- Wilkinson, David Leonidas, mc Tulane 94, cb Autauga 94, Farley Bldg., Birmingham.
- Wilks, Arthur E., mc Ala. 09, sb 09, Powderly.
- Williams, Howard Bailey, mc Tulane 35, sb 36, Med. Arts Building, Birmingham. (S.)
- Williams, James H., mc Rush 36, sb 36, Employees Hospital, Fairfield.
- Williamson, Byrn, mc Tenn. 36, recip. Tenn. 38, 2930 N. 12th Avenue, Birmingham.
- Williamson, George William, mc Vanderbilt 00, sb 09, Bcssemer.
- Wilson, Charles Henry, mc Tulane 35, sb 35, 6301 Perrier Street, New Orleans.
- Wilson, Cunningham, mc Pa. 84, cb 84, 2712 Hanover Cir-
- cle, Birmingham. Wilson, Frank C., mc Tulane 20, sb 20, Med. Arts Bldg.,
- Birmingham. Wilson, Jos. D., mc Washington Univ. 26, recip. Ohio 31,
- Med. Arts Bldg., Birmingham. (S.) Wilson, Luther Elgin, mc Pa. 11, sb 13, Woodward Bldg.,
- Birmingham. Wilson, Ollie E., mc Ala. 10, sb 10, 1621 28th St., Fairview
- Sta., Birmingham. Winn, Lochlin Minor, mc Tulane 00, sb 00, 1015 S. 22nd
- Street, Birmingham. (S.)
- Wiygul, C. Harrison, mc Emory 37, recip. Ga. 39, T. C. I. Dispensary, Pratt City.
- Woodall, Paul S., mc Pa. 33, recip. Ill. 37, 2121 Highland Avenue, Birmingham. (S.)
- Woods, Arthur W., mc Loyola 38, recip. Ill. 40, Woodward Building, Birmingham. (S.)
- Woodson, Lewis G., Jr., mc Jefferson 20, sb 21, 1124 S. 20th St., Birmingham.
- Woodson, Richard Carlisle, mc Tulane 04, cb Walker 06, Woodward Bldg., Birmingham.
- Word, Samuel Buford, mc LSU 36, recip. Miss. 37, Med. Arts Bldg., Birmingham. (S.)
- Wright, Solon W., mc Ala. 11, sb 11, Realty Bldg., Bessemer.
- Wynne, Wm. Hall, mc Ala. 97, cb Marengo 97, Ensley.
- Yelton, Chestley Lee, mc Univ. Louisville 37, recip. Ky. 38, 1807 27th Street, Ensley.
- Young, Allen C., mc Queen's Univ. 36, recip. D. C. 41, 630N. 19th Street, Bessemer.Total 411.

PHYSICIANS NOT MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

- Ballard, Asa Elwyn, mc Pulte 02, cb 02, Warrior.
- Ballard, Edward H. (col.), mc Howard 26, sb 27, 1420 7th Ave. N., Birmingham.
- Berry, James C., mc S. C. 95, cb 95, Trussville.
- Box, Thomas T., mc Chicago M. & S. 16, recip. Miss. 37, Docena, Adamsville, Rt. 1.
- Bradford, Ferd D. (col.), mc Meharry 13, sb 13, 1630 N. 4th Ave., Birmingham.
- Brewer, Henry H. (col.), mc Howard Univ. 35, recip. Kansas 38, 1431 S. 6th Avenue, Birmingham.
- Broughton, N. J. (col.), mc Meharry 05, sb 05, 133 So. 61st St., Birmingham.
- Brown, Walter L. (col.), mc Meharry 15, sb 15, 310 S. 23rd St., Birmingham.

Bryant, Henry Clay (col.), mc Univ. Chicago 11, sb 12, 310 N. 18th St., Birmingham.

Cameron, Robert A., mc Tenn. 35, recip. Miss. 39, TCI Dispensary, Fairfield.

Clements, Merit DeWitt, mc Tulane 12, sb 12, 1012 S. 26th Street, Birmingham.

Corns, C. Z., mc Vanderbilt 99, cb Winston 99, 7618 Georgia Road, Birmingham.

Cox, E. S. W., mc Tenn. 93, cb 93, Warrior.

Dawkins, James T., mc Ala. 09, sb 09, 1903½ Avenue E, Ensley.

Ensiey. Demby, Lorenzo S. (col.), mc Meharry 25, sb 26, Bessemer. Dozier, Byron, mc Barnes 97, cb Elmore 00, 12 21st Via-

duct, Birmingham.
Drake, Wm. L. (col.), mc Meharry 25, sb 25, 5805 Avenue
D., Fairfield. (S.)

Durick, Stephen A., mc LSU 33, sb 34, Rt. 2, Box 188, Wenonah, Bessemer.

Fields, Abijah C., mc Md. 25, sb 26, 1903½ Avenue E, Ensley

Fields, Elbert T., mc Bellevue 99, cb 99, 1903½ Avenue E, Ensley.

Giscombe, Cecil Stanley (col.), mc Meharry 16, sb 16, 4238 2nd Ave. N., Avondale.

Graham, George S., Jr., mc Harvard 41, sb 42, 2500 Caldwell Avenue, Birmingham.

Grasberger, Joseph C., mc Hahnemann 37, recip. Pa. 40, Ensley Emergency Hosp., Ensley.

Green, Anderson C., mc Ala. 14, sb 14, 2911 N. 16th St., Birmingham.

Hagler, Prewett L., mc Ala. 91, cb Tuscaloosa 91, 1205 8th Ave. N., Birmingham.

Hankins, John M., mc Univ. Nashville 07, sb 07, 6609 1st Ave., Birmingham.

Ave., Birmingnam. Hanna, Henry P., mc Ala. 12, sb 13, Martin Bldg., Birmingham.

Harris, Samuel F. (col.), mc Meharry 19, recip. Ky. 26, 400 N. 17th St., Birmingham.

Hood, Alexander, mc Vanderbilt 00, cb 05, 2006½ 4th Avenue N., Birmingham.

Hubbard, J. H., mc Memphis 02, sb 21, Tarrant (Retired). Huey, Ben Maclin, mc Emory 23, sb 24, 714 20th Street,

Ensley. Hutchinson, John E. (col.), mc Meharry 30, recip. Ga. 37, 400 N. 17th St., Birmingham.

Jeter, Marvin L., mc Emory 25, sb 26, 70 Norwood Circle, Birmingham.

Johns, Stanley W., mc Ala. 13, recip. Ga. 21, Ishkooda Dispensary, Rt. 1, Birmingham.

Johnson, Roy E., mc Vanderbilt 09, sb 09, 7748 S. 1st Avenue, Birmingham.

Kincaid, John L., mc Ala. 12, sb 12, Bessemer.

Lilly, Robert E., mc Vanderbilt 25, recip. Tenn. 28, Johns. Maclin, Robert B. (col.), mc Meharry 05, cb Tuscaloosa 05, 2815 29th Ave. N., Birmingham.

Martin, Wm. B., mc Ind. 28, recip. Ind. 29, Warrior.

Matthews, Herbert O. (col.), mc Howard 19, recip. Ind. 37, $103\frac{1}{2}$ N. 21st St., Bessemer.

May, Frank H., mc Univ. South 98, cb Marion 99, 1617 N. 5th Avenue, Birmingham.

McCall, Marion G. (col.), mc Michigan 21, sb 23, 1630 4th Avenue N., Birmingham.

McCarn, Dan Wilson, mc Vanderbilt 34, recip. Tenn. 35, Warrior. (S.)

McPherson, Charles A. J. (col.), mc Meharry 17, sb 17, 1630 4th Avenue N., Birmingham.

Merritt, Thomas E., mc Jefferson 37, sb 38, Flattop.

Mitchell, Aldus S. (col.), mc Meharry 27, recip. Tenn. 28, $2724\frac{1}{2}$ 29th Ave. N., Birmingham.

Moten, Pierce S. (col.), mc Meharry 06, cb 06, 818 S. 17th Street, Birmingham.

Newman, John Henry, mc Chicago Col. Osteopathy 33, sb 33, Woodward Bldg., Birmingham.

Paull, Benjamin P., mc Univ. Buffalo 38, recip. N. Y. 40, TCI Disp., Fairfield.

Payne, Thomas Henry, mc Ala. 96, cb Shelby 96, 328 N. 17th Street, Birmingham.

Plump, Ad Wimbs (col.), mc Meharry 28, recip. Tenn. 32, 409 N. 10th Ct., Birmingham.

Porter, Daniel W. (col.), mc Meharry 05, cb Walker 06, 4315 N. 9th Ave., Birmingham.

Ragsdale, M. C., mc Univ. Nashville 05, sb 06, Bessemer. Reynolds, Frederick K., mc Ala. 01, cb 01, 317 2nd Ave., Birmingham.

Robertson, James Kelly (col.), mc Leonard 10, recip. Ga. 23, 1728 20th St., Ensley.

Segre, Wesley Newton, mc Howard 37, sb 40, Slossfield Clinic, Birmingham.

Shell, Charles C., mc Ala. 09, sb 09, Brookside.

Shepherd, Samuel T., mc Atlanta P. & S. 02, cb Walker 03, 4107 Terrace R., Birmingham.

Shirey, J. Luther, mc Jefferson 39, recip. N. C. 41, TCI Dispensary, Fairfield.

Simpson, Frank S. (col.), mc Leonard 02, cb Russell 02, $421\%\ 17\text{th}$ St., Ensley.

Sims, Thos., mc Tulane 23, sb 23, Fairfield.

Stephens, Joseph H., mc Ala. 15, sb 15, 515 S. 55th Street, Birmingham.

Stoner, William P., mc Univ. Tenn. 37, recip. Tenn. 42, Virginia Mines, Bessemer, Rt.

Trammell, Virgil, mc Ala. 12, sb 12, Huffman Rd., Rt. 6, Birmingham.

Ussery, Claudius Jackson, mc Tulane 21, sb 21, 1630 33rd St., Ensley.

Van De Voort, Horace, mc Ala. 10, sb 13, Bessemer.

Watson, William A., mc Memphis Hosp. 11, recip. Miss. 31, Gardendale, Rt. 7, Birmingham.

Wellborn, Mitchell D. (col.), mc Meharry 01, cb 01, Pratt City.

White, Charles Peyton, mc Memphis 09, sb 13, Labuco. Whorton, William W., mc Vanderbilt 99, cb Marshall 00, Pratt City.

Woodall, P. H., mc Mich. 96, sb 00, Frank Nelson Bldg., Birmingham.

Young, T. H., mc Tulane 03, cb Lamar 03, 2 N. 60th St., Birmingham. Total 72

(38) LAMAR COUNTY Birmingham 1877

President—G, S. Barksdale Fernbank
Vice-President—R. H. Redden Sulligent
Secretary-Treasurer—H. A. McClure Vernon
County Health Officer—H. A. McClure Vernon

Censors—D. M. Sizemore, Chairman, Sulligent; C. A. Davis, Kennedy; L. S. Coleman, Millport; J. A. Jackson, Sulligent; J. M. Roberts, Vernon.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Barksdale, Geo. S., mc Memphis Hosp. 99, cb 99, Fernbank.

Box, W. L., mc Ala. 06, sb 06, Sulligent, Rt. 2.

Clanton, A. W., mc Miss. 07, cb 07, Millport.

Coleman, Luther S., ng, sb 09, Millport.

Davis, Charles A., mc Ala. 12, sb 12, Kennedy.

Jackson- John A., mc Memphis Hosp. 99, cb 99, Sulligent. McClure, Herbert A., mc Atlanta 15, sb 15, Vernon. Molloy, Daniel Murray, mc Univ. Nashville 08, sb 14,

White Plains, N. Y.

Redden, Raymond Hollis, mc Memphis Hosp. 01, cb 01, Sulligent.

Roberts, John Monroe, mc Ala. 07, cb 07, Vernon.
Savage, Victor, mc Vanderbilt 89, cb Fayette 89, Kennedy.
Sizemore, D. M., mc Univ. Nashville 07, cb 07, Sulligent.
Total 12

PHYSICIANS NOT MEMBERS

Black, James Berton, mc Memphis Hosp. 04, cb 04, Vernon.

Collins, Francis A., mc Memphis Hosp. 92, cb 92, Beaverton.

Total 2

HONORARY MEMBER

Pennington, A. C., Steens, Miss.

(39) LAUDERDALE COUNTY Tuscaloosa 1887

President—T. D. Cloyd Vice-President—J. D. Walden	Florence Florence
Secretary-Treasurer—T. D. Cloyd	Florence
County Health Officer—	

Censors—T. L. Bennett, Jr., Chairman, Florence; W. J. Robbins, Florence; G. A. Cashman, Florence; S. S. Roberts, Florence; T. L. Bennett, Sr., Florence.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Alexander, William W., mc Vanderbilt 31, recip. Tenn. 34, Florence. (S.)

Bayles, Lewis Eugene, mc Ala. 11, sb 11, Anderson.
Bayles, Louie Earl, mc Tulane 35, sb 35, Anderson.
Bennett, Thomas Lee, mc A. S. O., Kirksville 11, sb 12,
Florence.

Bennett, Thos. Lee, Jr., mc Tulane 29, sb 29, Florence. Cashman, George A., mc Columbia P. & S. 19, recip. N. Y. 41, Florence.

Cheney, Henry W., mc Northwestern 92, recip. Ill. 42, Florence.

Cloyd, T. D., mc Grant 08, recip. Tenn. 23, Florence. Cotton, Spencer F., mc Ala. 09, sb 14, Lexington. Ellis, Lovick Culver, mc Tenn. 14, sb 15, Florence. Gray, Edward W., mc Ala. 09, sb 10, Florence. Jackson, Alva A., mc Northwestern 11, sb 12, Florence. Kennedy, William C., Jr., mc Columbia Univ. 28, recip. N. Y. 38, Florence. (S.)

Maples, John M., mc Louisville 07, cb 07, Killen, RFD. Moore. Wm. Roscoe, mc Memphis Hosp. 08, sb 07, Florence.

Price, Lance C., mc George Washington Univ. 33, sb 37, Florence. (S.)

Robbins, Wm. Jesse, mc Atlanta P. & S. 12, sb 13, Florence.

Roberts, Shaler S., mc Atlanta 14, sb 14, Florence. Simpson, Harry Moody, mc Ala. 15, sb 16, Florence. Stringer, Myron Scott, mc Emory 23, recip. Ga. 28, Florence.

Taylor, J. W., mc Tenn. 15, sb 15, Lexington.
Waddell, John R., mc Vanderbilt 15, sb 15, Rogersville.
Walden, Joe D., mc Rush 37, sb 38, Florence.
Total 23

PHYSICIANS NOT MEMBERS

Belue, John C., ng, cb 90, Rogersville. (Retired.) Hicks, Leonard J. (col.), mc Meharry 29, recip. Tenn. 33, Florence.

Rousseau, Wm. R., mc Ala. 17, sb 17, Rogersville. Stutts, Henry Lee, mc Ala. 00, cb 01, St. Joseph, Tenn., Rt. 1.

Towns, James A. (col.), mc Meharry 29, recip. Tenn. 30, Florence.

Total 5

(40) LAWRENCE COUNTY Birmingham 1877

President—S. R. Sanders	Moulton
Vice-President-W. R. Taylor	Town Creek
Secretary-Treasurer-L. R. Murphree	Moulton
County Health Officer-L. R. Murphree	Moulton

Censors—W. W. Irwin, Chairman, Moulton; J. A. Ussery, Courtland; R. P. Irwin, Moulton; J. P. Dyar, Moulton; W. R. Taylor, Town Creek.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Brackin, Odie D., mc Univ. Ark. 40, recip. Ark. 41, Town Creek.

Dyar, James P., mc Tulane 23, recip. Tenn. 24, Moulton. Farish, Clarence G., mc Tulane 33, sb 33. Moulton. (S.) Irwin, Robert P., mc Ala. 10, sb 09, Moulton. Irwin, Willard W., mc Emory 36, sb 36, Moulton. Sanders, Samuel R., mc Ala. 08, sb 08, Moulton. Taylor, Woodie R., mc Univ. Nashville 10, sb 10. Town Creek.

Ussery, James A., mc Ala. 15, sb 15, Courtland. Total 8

PHYSICIANS NOT MEMBERS

None.

ROSTER OF THE ASSOCIATION

(41) LEE COUNTY Huntsville 1880

President—G. W. Blackshear	Opelika
Vice-President-F. H. Boyd	Opelika
Secretary-Treasurer—A. H. Graham	Opelika
County Health Officer—A. H. Graham	Opelika

Ccnsors—B. S. Bruce, Chairman, Opelika; M. W. Sanford, Opelika; A. D. McLain, Salem; P. D. Hudson, Opelika; F. H. Boyd, Opelika.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Askew, William, mc Wash. Univ. 37, recip. Mo. 39, Auburn. (S.)

Blackshear, Gill Wyeth, mc Tulane 23, recip. La. 26, Opelika.

Boyd, Frank H., mc Emory 30, sb 30, Opelika. Bruce, Byron S., mc Univ. Texas 11, recip. Texas 20, Opelika.

Burkhead, DeWitt, mc Tulane 20, recip. La. 24, Opelika. Coggin, Fount Randall, mc Ala. 11, sb 11, Waverly. Dennis, Jeptha Weldon, mc Emory 27, sb 27, Auburn. (S.) Dix, Albert Sidney, mc Rush 36, sb 37, Mobile. Dupree, John Wesley, Jr., mc Emory 36, recip. Ga. 38. Opelika, Rt. 2.

Floyd, Henry T., mc Johns Hopkins 23, recip. Ind. 41, Auburn.

Graham, Arthur H., mc Toronto 22, sb 26, Opelika. Hudson, Percy Dannelly, mc Emory 30, recip. Ga. 31, Ope-

Jones, John Allen, Jr., mc Emory 38, sb 38, Opelika. (S.) McLain, Andrew D., mc Ala. 01, cb Chambers 01, Salem. Owsley, Winfield S., mc Emory 24, sb 25, Opelika. Palmer, Julian G., mc Tulane 23, sb 23, Opelika.

Rothermel, Robert Earl, mc Temple Univ. 35, recip. Pa. 38, 519 Dexter Avenue, Montgomery. (S.)

38, 519 Dexter Avenue, Montgomery. (S.)
Samford, Millard W., mc Emory 34, recip. Ga. 36, Opelika.
Thomas. Benjamin F., mc Emory 17, sb 17, Auburn. (S.)
Walton, Mary, mc Univ. Minn. 30, NBE 41, Opelika.
Warren, Thurston A., mc Baylor 29, recip. La. 32, Auburn.
Yarbrough, Cecil S., mc Tenn. 01, cb Russell 01, Auburn.
Total 22.

PHYSICIANS NOT MEMBERS

Darden, John W. (col.), mc Leonard 01, sb 02, Opelika. Lindsey, Eugene A. (col.), mc Meharry 08, sb 09, Opelika. Total 2

(42) LIMESTONE COUNTY Birmingham 1877

President—H. A. Darby	Athens
Vice-President-C. V. Mayhall	Elkmont
Secretary-Treasurer—F. M. Hall	Athens
County Health Officer_F M Hall	Athens

^{*}See also Morgan County.

Censors—A. J. DuPuy, Chairman, Athens; H. A. Darby, Athens; J. O. Belue, Athens; D. E. Jackson, Lester; J. J. Pettus, Belle Mina.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Belue, Julius O., mc Vanderbilt 15, sb 15, Athens. Crutcher, John Sims, Jr., mc Vanderbilt 29, recip. Tenn 34, Athens. (S.)

Darby, Henry Alonzo, mc Ala. 01, cb 01, Athens. DuPuy, Alton J., mc Baylor 27, recip. Texas 41, Athens. Hall, Frank Marion, mc Tenn. 33, recip. Tenn. 36, Athens. Jackson, David E., mc Tenn. 38, recip. Tenn. 40, Lester. Maddox, John Willard, mc Tenn. 21, recip. Tenn. 30, Ardmore.

Maples, Joseph Hemans, mc Univ. Nashville 05, cb 05, Elkmont.

Maples, William Ellis, mc Univ. Nashville 03, cb 03, Athens.

Mayhall, Clifford Vernon, mc Ala. 15, sb 15, Elkmont. Pettus, Benton S., mc Vanderbilt 92, cb 92, Athens. Pettus, J. J., mc Ala. 08, sb 08, Belle Mina. Powers, Alvin Dow, mc Ala. 11, sb 11, Athens. Shelamer, Arthur McKee, mc S. C. 28, recip. S. C. 35, Athens. (S.)

Teasley, Gerald H., mc Emory 30, recip. Ga. 34, Athens. (S.)

, Total 15

PHYSICIANS NOT MEMBERS

Peyton, Wade H. (col.), mc Meharry 22, recip. Tenn. 29, Athens.

Total 1

(43) LOWNDES COUNTY Mobile 1878

President—W. E. Lee Ft. Deposit
Vice-President—R. B. Hagood Lowndesboro
Secretary-Treasurer—E. F. Leatherwood
County Health Officer—E. F. Leatherwood Hayneville

Censors—N. G. James, Chairman, Hayneville; W. E. Lee, Ft. Deposit; H. C. Clements, Benton; R. B. Hagood, Lowndesboro; E. F. Leatherwood, Hayneville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Clements, Henry Clay, mc Ala. 99, cb Autauga 99, Benton. Hagood, Robert B., mc Tulane 05, cb 05, Lowndesboro. James, Norman Gilchrist, mc Ala. 98, cb 98, Hayneville. Leatherwood, Elbert F., mc Ala. 07, cb 07, Hayneville. Lee, William Ernest, mc Atlanta P. & S. 06, cb 06, Ft. Deposit.

Staggers, William L., mc Ala. 16, sb 20, Benton. Total 6

PHYSICIANS NOT MEMBERS

Coleman, Henry Neal, ng. sb 01, Ft. Deposit. Total 1

(44) MACON COUNTY Selma 1879

President—H. H. Winters	Tuskegee
Vice-President—W. A. Edwards	Notasulga
Secretary-Treasurer-Murray Smith	Tuskegee
County Health Officer-Murray Smith	Tuskegee

Censors—P. M. Lightfoot, Chairman, Shorter; T. F. Taylor, Tuskegee; H. H. Winters, Tuskegee; W. A. Edwards, Notasulga; B. W. Booth, Shorter.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Booth, Benson W., mc Ala. 05, cb Autauga 05, Shorter. Edwards, Winston A., mc Tenn. 36, sb 37, Notasulga.

Lightfoot, Philip Malcolm, mc Ala. 00, cb 00, Shorter.
 Smith, Murray, mc Emory 29, sb 29, Tuskegee.
 Taylor, Thomas F., mc Ala. 04, cb Mobile 04, Tuskegee.
 Winters, Harry Hall, mc Tulane 24, recip. La. 26, Tuskegee.

Yancey, Gautier C., mc Ala. 19, sb 19, Tuskegee. Total 7

PHYSICIANS NOT MEMBERS

Chenault, John W. (col.), mc Univ. Minn. 30, recip. Ill. 36, Tuskegee Institute.

Dibble, Eugene Heriot (col.), mc Howard 19, recip. D. C. 21, Veterans Hosp., Tuskegee.

Kenney, J. A. (col.), mc Leonard 01, cb 02, Tuskegee Institute.

Thompson, Charleton, mc P. & S. Atlanta 99, cb 99, Tuskegee.

Walwyn, Cyril A. (col.), mc Howard 28, recip. D. C. 37, Tuskegee Institute.

Wilkerson, Leonard Boyce, mc Ky. 02, recip. Ky. 21, Shorter,

Williams, Joshua W. (col.), mc Howard Univ. 32, recip. Ga. 36, Veterans Hospital, Tuskegee.

Total 7

(45) MADISON COUNTY Birmingham 1877

President-J. L. Carpenter	New Hope
Vice-President-J. D. Holliman	. Huntsville
Secretary-Treasurer-G. W. Adams	Huntsville
County Health Officer-W. C. Hatchett	Huntsville

Censors—M. R. Moorman, Chairman, Huntsville; O. J. Brooks, Huntsville; C. A. Grote, Huntsville; J. B. Laughlin, Huntsville; W. F. Jordan, Huntsville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Adams, George W., mc Washington Univ. 40, recip. Mo. 42. Huntsville.

Brooks, Osceola Judkins, mc Tulane 93, cb Elmore 93, Huntsville.

Caldwell, Edwin Valdivia, mc Ala. 07. sb 06, Huntsville. Carpenter, James L., mc Vanderbilt 35, sb 35, New Hope. Dickey, Edwin W., mc Chattanooga 97, cb Morgan 03, Hazel Green.

Dilworth, Thos. E., Jr., mc Vanderbilt 25, recip. Tenn. 26, Huntsville.

Duncan, Maurice Miller, mc Ala. 14, sb 14, Huntsville. Grayson, Ambrose T., mc Chattanooga 06, sb 06, New Market.

Grote, Carl A., mc Ala. 12, sb 12, Huntsville. Hatchett, Wm. C., mc Memphis Hosp. 12, sb 12, Huntsville. Holliman, James D., mc Tenn. 24, sb 25, Huntsville. Jordan, William F., mc Jefferson 09, sb 09, Huntsville. Kyser, James Allen, mc Tulane 11, sb 11, Madison. Lary, John H., mc Tulane 35, sb 35, Huntsville. (S.) Laughlin, J. B., mc Va. 12, pro forma USN 20, Huntsville. McCown, William G., mc Vanderbilt 28, recip. Tenn. 29, Huntsville. (S.)

McKissack, Wm. Milton, mc Univ. Chicago 27, sb 27, Huntsville.

Moorman, John D., mc Harvard 36, sb 40, Huntsville. (S.) Moorman, Marion Ridley, mc Univ. South 00, cb 01, Huntsville.

Parker, Harry J., mc Loyola Univ. 37, recip. Ill. 41, Madison. (S.)

Sentell, James H., mc Tenn. 04, cb Jackson 06, New Hope. Summers, William Pleasant, mc Univ. Nashville 05, recip. Tenn. 19, Toney.

Walker, H. O., mc Vanderbilt 21, sb 21, Huntsville. Walker, Moody, mc Vanderbilt 26, recip. Tenn. 34, Huntsville.

Whitaker, James E., mc Tulane 22, sb 23, Huntsville. Wikle, Jesse Ollie, mc Ala. 15, sb 15, Madison. Williamson, Edwin Oliver, mc Chattanooga 98, cb 98, Gur-

Total 27

J.M.A. Alabama

July 1943

PHYSICIANS NOT MEMBERS

Beard, Robert S. (col.), mc Meharry 22, recip. Tenn. 24, Huntsville.

Carpenter, James Allen, mc Ala. 96, cb 96, New Hope. Gumbs, Oliver S., mc Meharry 41, recip. Tenn. 42, Huntsville.

New, Thos. B. (col.), mc Meharry 18, recip. Tenn. 28, Huntsville.

Russell, Christopher H., mc Ala. 12, sb 13, Huntsville. Total 5

(46) MARENGO COUNTY Birmingham 1877

President-W. E. Allen	Sweet Water
Vice-President-C. E. Kimbrough	Linden
Secretary-Treasurer-C. J. Stallworth	Thomaston
County Health Officer-C. E. Kimbrough	Linden

Censors—C. E. Kimbrough, Chairman, Linden; W. E. Allen, Sweet Water; C. J. Stallworth, Thomaston; W. T. Cocke, Demopolis; T. H. Gaillard, Magnolia.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Allen, Walter Earl, mc Tenn. 16, sb 16, Sweet Water. Bobo, Arlington H., mc Ala. 11, sb 11, Demopolis. Cameron, Turner C., mc Ala. 07, sb 07, Faunsdale. Cocke, William T., mc Ala. 03, cb Hale 03, Demopolis. Dunning, Guy Jennings, mc Ala. 11, sb 11, Linden. Gaillard, Thos. Hamilton, mc Ala. 06, cb Mobile 06, Magnolia

Kimbrough, Cecil Emmett, mc Tulane 26, sb 26, Linden. Malone, J. C., mc Memphis Hosp. 01, cb Greene 01, Faunsdale. Rt.

Rhodes, Chas. E., mc Univ. South 05, cb 06, Jefferson. Stallworth, Clarke Jackson, mc Md. 12, sb 12, Thomaston. Stone, Sardine G., mc Ala. 87, cb Calhoun 87, Nanafalia. Williams, Gerald N., mc Tulane 32, Nat. Ex. Bd. 33, Linden.

Total 12

PHYSICIANS NOT MEMBERS

Hand, Leslie M., mc Ky. 04, cb 04, Demopolis. Lee, Earl F., mc Ala. 03, cb 04, Rt. 1, Box 41, Gastonburg. Moseley, David C., mc Ala. 88, cb 88, Faunsdale. Total 3

(47) MARION COUNTY Montgomery 1888

President-M. C. Hollis	Winfield
Vice-President-J. L. Wilson	Hackleburg
Secretary-M. S. White	Hamilton
Treasurer—J. R. Burleson	Hamilton
County Health Officer—H. C. McRee	Hamilton

Censors—J. L. Wilson, Chairman, Hackleburg; R. L. Hill, Winfield; M. C. Hollis, Winfield; J. R. Burleson. Hamilton; R. B. Garlington, Brilliant.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Bonds, William Riley, mc Ala. 92, cb Winston 92, Winfield. Brooks, James Otis, mc Tenn. 35, recip. Tenn. 39, Hamilton

Brown, James Rias, mc Memphis Hosp. 12, sb 13, Hamilton.

Burleson, John Rufus, mc Memphis Hosp. 97, cb 97, Hamilton.

Busby, S. S., mc Ala. 08, sb 08, Hamilton.

Garlington, Robert Bernard, mc Emory 21, sb 21, Brilliant.

Hill, Robert L., mc Memphis Hosp. 05, cb 05, Winfield. Hollis, Murray C., mc Memphis Hosp. 08, sb 08, Winfield. Johnson, John Carroll, mc Louisville 92, cb Fayette 92, Hamilton.

McRee, Hugh Clark, mc Univ. Nashville 98, sb 02, Hamilton.

White, Marvin S., mc Louisville 03, cb 03, Hamilton. Wilson, John L., mc Ala. 11, sb 12, Hackleburg. Total 12

PHYSICIANS NOT MEMBERS

Barnes, Reuben H., mc Atlanta 14, sb 14, Winfield. (Retired.)

Cochran, William W., mc Chattanooga 05, cb 05, Brilliant. Shelton, Wm. H., mc Memphis Hosp. 01, cb 01, Guin. Total 3

(48) MARSHALL COUNTY

Anniston 1886

President—E. W. Venning Guntersville
Vice-President—H. E. Barker Boaz
Secretary-Treasurer—B. N. Lavender Albertville
County Health Officer—Lee Weathington Guntersville

Censors—R. M. Barnard, Chairman, Arab; H. E. Barker, Boaz; B. C. Scarbrough, Albertville; A. G. Finlay, Guntersville; A. L. Isbell, Albertville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Barker, Hampton E., mc Emory 32, recip. Ga. 34, Boaz.
Barnard, Radford M., mc Tenn. 26, sb 27, Arab.
Couch, Ezekiel H., mc Vanderbilt 05, cb 05, Guntersville.
Crawford, Jas. M., mc Tenn. 29, sb 30, Arab.
Finlay, Andrew G., mc Univ. Col. 29, recip. Col. 33, Guntersville.

Horsley, Henry L., mc Univ. Nashville 04, cb 04, Boaz. Huckaby, W. R., mc Ala. 15, sb 15, Guntersville. Hunt, Marston T., mc Tenn. 34, sb 34, Boaz. Hyatt, Ernest M., mc Ala. 11, sb 11, Albertville. Isbell, A. L., mc Ala. 12, sb 12, Albertville. Lavender, Belton N., mc Tenn. 38, recip. Tenn. 39, Albertville.

Martin, Thos. E., mc Vanderbilt 25, recip. Tenn. 27, Guntersville.

Rogers, Harold Lawton, mc Rush 35, sb 35, Albertville. Scarbrough, B. C., mc Tenn. 11, sb 11, Albertville. Venning, Edward W., mc Univ. Va. 38, recip. Va. 39, Guntersville.

Watwood, Jas. A., mc Emory 25, sb 25, Union Grove. Weathington, Lee, mc Ala. 13, sb 13, Guntersville. Total 17

PHYSICIANS NOT MEMBERS

Fennell. Robt. F., mc Tulane 11, sb 11, Guntersville. (Retired).

Irwin, W. F., mc Louisville 83, cb 87, Albertville. (Retired).

Jordan, D. C., mc Memphis Hosp. 92, cb 92, Guntersville.

(Retired).

Noel, William East, mc Grant 99, cb 00, Boaz. (Retired.) Total 4

(49) MOBILE COUNTY Mobile 1876

President-C. L. Rutherford	Mobile
Vice-President-J. H. Baumhauer	. Mobile
Secretary-W. W. Scales	Mobile
Treasurer—J. D. Peake	Mobile
County Health Officer-O. L. Chason	Mobile

Censors—G. O. Segrest, Chairman, Mobile; A. M. Cowden, Crichton; L. W. Hollis, Mobile; E. W. Cawthon, Plateau; J. M. Weldon, Mobile.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

- Acker, Paul Jerome Moeris, mc Ala. 92, cb 92, 153 Government St., Mobile.
- Adams, M. Vaun, mc Penn. 28, sb 28, 803 Government St., Mobile.
- Armistead, John Robert, mc Md. 08, sb 08, Prichard.
- Baumhauer, Jacques H., mc Tulane 26, sb 27, 653 Government St., Mobile.
- Beck, Julius Edward, mc Ala. 12, sb 12, 103 Dauphin St., Mobile.
- Bell, John Mac, mc Ala. 15, sb 15, 208 Government St., Mobile.
- Blake, Theodore M., mc Ala. 00, cb 03, Toulminville.
- Blewett, Means, mc Tenn. 91, cb Washington 95, Citronelle.
- Bondurant, Eugene DuBose, mc Univ. Va. 83, cb Hale 83, 1109 Government St., Mobile.
- Boudreau, Floyd T., Jr., mc Tulane 30, recip. La. 33, 56 St. Joseph St., Mobile (S.)
- Brown, Alexander John, mc St. Louis Univ. 35, recip. Mo. 36, 56 St. Joseph St., Mobile. (S.)
- Cawthon, Edly W., mc Ala. 08, sb 08, Plateau.
- Chason, Otis L., mc Tulane 25, sb 25, 119 Conti St., Mobile. Clarke, Norborne R., Jr., mc Penn. 26, sb 28, 1201 Springhill Avenue, Mobile. (S.)
- Cleveland, Claude Mastin, mc Tulane 21, sb 25, 103 Dauphin St., Mobile.
- Cogburn, Harry Reginald, mc Ala. 13, sb 13, 56 St. Joseph St., Mobile.
- Cowden, Arthur M., mc Ala. 16, sb 16, Crichton.
- Davis, Charles S., mc Univ. Ind. 27, sb 27, 1155 Springhill Avenue, Mobile.
- Dodson, James Horacc, mc Ala. 14, sb 14, 103 Dauphin St., Mobile.
- Dowling, Herbert Bascom, Jr., mc Ala. 20, sb 20, 803 Government St., Mobile.
- England, Francis Tillman, mc Tenn. 34, recip. Tenn. 36, 50 S. Franklin St., Mobile. (S.)
- England, John Tillman, mc Ala. 99, cb 99, 50 S. Franklin St., Mobile.
- Fonde, Edgar C., mc Penn. 30, sb 30, 113 St. Francis St., Mobile. (S.)
- Fonde, George Heustis, mc Ala. 97, cb 97, 113 St. Francis St., Mobile.
- Fonde, William Gorgas, mc Tulane 40, recip. La. 41, Chickasaw, (S.)
- Forcheimer, Herbert H., mc Pa. 09, sb 09, 103 Dauphin St., Mobile.
- Frazer, Emmett B., mc Ala. 18, sb 18, 109 N. Conception St., Mobile. (S.)
- Gaillard, Samuel S., mc Ala. 10, sb 10, 103 Dauphin St., Mobile. (S.)
- Gaines, Marion Toulmin, mc Ala. 90, cb 92, 56 St. Joseph St., Mobile.
- Gay, Nathaniel S., mc Ala. 00, cb 01, Whistler.
- Goldsmith, Edward F., mc Tulane 34, sb 34, Prichard. (S.) Gray, Henry W., mc Ky. 03, sb 13, Crichton.
- Haas, Toxey Daniel, mc Ala. 12, sb 12, 103 Dauphin St., Mobile.
- Hale, Stephen Fowler, mc Md. 04, sb 04, 108 N. Conception St., Mobile.
- Hannon, William Campbell, mc Ala. 16, sb 16, 1257 Springhill Ave., Mobile.
- Heiter, Wm. Leslie, mc Tulane 28, sb 28, 103 Dauphin St., Mobile.
- Henderson, Andrew D., mc Vanderbilt 29, recip. Tenn. 30, 259 St. Francis St., Mobile. (S.)
- Hill, Vivian H., mc Emory 26, recip. Ga. 28, 55 S. Joachim St., Mobile. (S.)
- Hinton, Lawrence H., mc Emory 28, recip. Miss. 29, 56 St. Joseph St., Mobile.
- Hollis, Lotta Winston, mc Ala. 20, sb 20, 56 St. Joseph St., Mobile.
- Hope, John C., mc Ala. 08, sb 09, 200 Dauphin St., Mobile.

- Howard, Percy John, mc Ala. 96, cb 96, 103 Dauphin St., Mobile.
- Inge, Francis Marion, mc Md. 10, sb 10, 14 St. Joseph St., Mobile.
- Inge, James Tunstall, mc Univ. New York 94, cb 95, 55 S. Joachim St., Mobile.
- Ingram, Geo. H., mc Tulane 21, sb 21, Veterans Admin., North Little Rock, Ark.
- Johnson, Gayle T., mc Univ. Ark. 30, recip. La. 34, 56 St. Joseph St., Mobile. (S.)
- Jones, William C., mc Ala. 07, sb 07, 103 Dauphin St., Mobile.
- Kilpatrick, George Carlton, mc Tulane 08, sb 15, 103 Dauphin St., Mobile.
- Lester, Richard P., mc Emory 25, sb 25, 103 Dauphin St., Mobile.
- Little, Joe H., mc Emory 28, sb 28, 14 St. Joseph St., Mobile. (S.)
- McCafferty, E. L., mc Atlanta P. & S. 02, cb 02, Mount Vernon.
- McCall, Daniel T., mc Louisville 94, cb Choctaw 94, 1901 Government St., Mobile.
- McGehee, Paul Duncan, mc Ala. 10, sb 09, 103 Dauphin St., Mobile.
- McVay, Leon Victor, mc Ala. 15, sb 15, 200 Dauphin St., Mobile.
- Meeker, Wm. Raymond, mc Rush 19, Nat. Ex. Bd. 26, 109 N. Conception St., Mobile. (S.)
- Minor, Walter H., mc Emory 29, sb 29, 56 St. Joseph St., Mobilc. (S.)
- Mohr, Charles A., mc Ala. 84, cb 92, 254 St. Anthony St., Mobile.
- Moody, Irving W., mc Univ. Texas 37, recip. Texas 41, 56 St. Joseph Street, Mobile. (S.)
- Moorer, Monte LeRoy, mc Ala. 17, sb 17, Mt. Vernon.
- Mulherin, Hugh G., mc Univ. Ga. 29, recip. Ga. 30, 103 Dauphin St., Mobile.
- Murphy, Samuel S., Jr., mc Tulane 38, recip. La. 40, 408 Randolph St., Huntsville.
- Muscat, Jos. O., mc St. Louis Univ. 31, sb 31, 58 N. Conception St., Mobile.
- Newburn, George W., mc Ala. 07, cb 07, Prichard.
- O'Gwynn, John Coleman, mc Tulane 92, cb 92, $18\frac{1}{2}$ S. Conception St., Mobile.
- O'Gwynn, John C., Jr., mc Tenn. 29, recip. Tenn. 30, 18½ S. Conception St., Mobile. (S.)
- Oswalt. George Guy, mc Ala. 14, sb 14, 56 St. Joseph St., Mobile.
- Partridge, Clarence V., mc Tulane 30, sb 31, 1201 Springhill Avenue, Mobile. (S.)
- Peake, John Day, mc Univ. Va. 30, recip. Va. 32, 1208 Springhill Ave., Mobile.
- Perdue, James Devote, mc Ala. 13, sb 13, 56 St. Joseph St., Mobile.
- St., Mobile.

 Perry, Alton R., mc Baylor 30, recip. Texas 40, 56 St.
- Joseph St., Mobile. (S.) Peterson, James Jesse, mc Tulane 01, cb Lee 01, 103 Dau-
- phin St., Mobile. Reaves, Jesse Ullman, mc Tulane 08, sb 08, 103 Dauphin
- St., Mobile.
 Roach, Alexander N. T., mc Univ. South 02, cb Perry 02,
- 911 Government St., Mobile.
- Roberts, Mack Jerome, mc Tulane 30, recip. La. 32, 103 Dauphin St., Mobile. (S.)
- Roe, Lee Wright, mc Ala. 01, cb 01, 103 Dauphin St., Mobile.
- Ross, Cecil H., mc Tenn. 16, sb 16, 359 St. Francis St., Mobile.
- Rouse, Clyde C., mc Tulane 27, recip. La. 28, 56 St. Joseph St., Mobile. (S.)
- Rowe, Harry S., mc Emory 22, sb 22, Mt. Vernon.
- Rowe, Jos. Flournoy, mc Ala. 14, sb 14, 208 Government St., Mobile.
- Rumpanos, Socrates N., mc Duke 37, Nat. Ex. Bd. 39, 109 N. Conception St., Mobile (S.)
- Rutherford, Chas. L., mc Emory 27, sb 27, 309 Government St., Mobile.

Sanders, J. Gillis, mc Tulane 13, sb 13, 56 St. Joseph St., Mobile.

Savage, Charles H., mc Tulane 17, pro forma USN 19, Crichton.

Scales, Willis West, mc Ala. 96, cb 96, 119 Conti St., Mo-

Segrest, Grady Oscar, mc Emory 24, sb 24, 653 Government St., Mobile.

Sellers, David F., mc Tulane 29, recip. La. 40, 103 Dauphin St., Mobile.

Sellers, William L., Jr., mc Wash. Univ. 36, recip. Mo. 39, 56 St. Joseph St., Mobile. (S.)

Sledge, Edward Simmons, mc Pa. 09, sb 10, 1201 Springhill Avenue, Mobile.

Spitzberg, Randolph H., mc Univ. Ark. 36, recip. Ark. 38, Mobile. (S.)

Stephens, Selden H., mc Emory 23, sb 23, 14 St. Joseph St., Mobile.

Stephens, Warren C., mc Tulane 35, sb 35, 14 St. Joseph St., Mobile. (S.)

Sumner, Isaac C., mc Univ. Ark. 28, sb 28, 55 S. Joachim Street, Mobile.

Taylor, Earle Ernest, mc Tenn. 04, cb Baldwin 04, Crichton.

Taylor, James Leslie, mc Tulane 20, sb 21, 56 St. Joseph St., Mobile. (S.)

Taylor, Richard V., Jr., mc Univ. Va. 10, sb 12, 1201 Springhill Avenue, Mobile.

Terrill, Edward Chapin, mc Ala. 09, sb 10, 4 N. Jackson St., Mobile.

Thompson, Wm. A., mc Univ. Tenn. 04, cb Baldwin 04, Citronelle.

Tisdale, William C., mc Tulane 18, sb 18, Mt. Vernon. Walker, Howard S. J., mc Memphis Hosp. 13, sb 14, 103 Dauphin St., Mobile,

Weldon, Joseph Marion, mc Ala. 13, sb 13, 309 N. Government St., Mobile.

Wilson, John M., mc Ala. 07, sb 07, 103 Dauphin St., Mobile.

Wise, I. Milton, mc Indiana 24, recip. Ohio 26, 106 St. Joseph St., Mobile.

Wood, Arthur A., mc Tulane 31, sb 31, 103 Dauphin St., Mobile. (S.)

Wright, Ruffin A., mc Univ. Va. 89, cb Sumter 89, 103 Dauphin St., Mobile.

Zieman, Alphonse Hays, mc Tulane 35, sb 35, 103 Dauphin St., Mobile. (S.)

Total 105

PHYSICIANS NOT MEMBERS

Adams, John Thomas, mc Ala. 09, sb 09, 169 Dauphin St., Mobile.

Barcus, James R., mc Univ. Texas 23, sb 42, Merchants Nat. Bk. Bldg., Mobile.

Doehring, Erich T., mc Greifswald 21, sb 21, 56 St. Joseph St., Mobile.

Farrior, Lawrence B., mc Ala. 16, sb 16, Merchants Nat. Bk. Bldg., Mobile.

Fleming, John W., Jr., mc Ala. 08, sb 08, Prichard.

Franklin, James Alexander (col.), mc Michigan 14, sb 15, 570 Davis Avenue, Mobile.

Garraway, Charles Read, mc Hospital College of Medicine, Louisville, 07, recip. Miss. 42, Prichard.

Gessler, Ivan W., mc Tulane 38, recip. Tenn. 42, Chickasaw. (S.)

Goode, E. B. (col.), mc Meharry 28, recip. Tenn. 29, 1066 Davis Ave., Mobile.

Greene, John H., mc Univ. Va. 29, recip. Va. 42, Whistler. Harris, Thomas Nathaniel (col.), mc Meharry 99, sb 99, 506 St. Michael St., Mobile.

Lane, Leonard T., mc Ala. 12, sb 12, Prichard.

McLure, Herbert Cecil, mc Med. Evan. 39, NBE 42, 109 N. Conception, Mobile.

Moore, John Calvin, mc Ala. 08, sb 08, 22 S. Royal St., Mobile.

Oden, Georgia E. (col.), mc Howard 32, NBE 33, 1258 Congress St., Mobile.

Park, Milton O., mc Vanderbilt 28, rccip. Tenn. 37, Crich-

Peters, Robert H., mc Ala. 94, cb 95, Mobile.

Price, Benj. J., mc Vanderbilt 40, sb 41, Chickasaw.

Reneke, Edward J., mc Tenn. 29, recip. Tenn. 32, 951 Marine St., Mobile.

Simington, A. D. (col.), mc Meharry 00, cb Perry 00, 600 Chestnut St., Mobile.

Spottswood, Dillon J., mc Ala. 90, cb 92, 54 N. Washington Ave., Mobile.

Stevens, Thomas A. (col.), mc Howard 25, recip. Pa. 40, 1258 Congress St., Mobile.

Tapia, Mose Hudson, mc Ala. 20, sb 20, Bayou La Batre. Taylor, John Francis (col.), mc Meharry 16, sb 16, 505 St. Michael St., Mobile.

Webb, Virginia Eugenia, mc L. S. U. 33, recip. La. 42, 1201 Springhill Ave., Mobile.

Webster, Harry H., Jr., mc Jefferson 41, sb 41, Mobile.

Wilkerson, G. H. (col.), mc Meharry 97, cb 97, 608 Congress St., Mobile.

Williams, Guy H., mc Okla. 34, recip. Okla. 42, Merchants Nat. Bk. Bldg., Mobile. Total 28

(50) MONROE COUNTY Birmingham 1877

President-W. W. Eddins Monroeville Vice-President-S. B. McMillan Frisco City Secretary-Treasurer—W. A. Stallworth. Frisco City County Health Officer ...

Censors—J. J. Dailey, Chairman, Tunnel Springs; W. W. Eddins, Monroeville; W. A. Stallworth, Frisco City; R. A. Smith, Monroeville; E. R. Cannon, Vredenbergh.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Broughton, William Edward, mc Louisville 10, sb 10, Perdue Hill.

Cannon, Edmund R., mc Ala. 05, cb Wilcox 05, Vredenbergh.

Cobb, Wm. Floyd, mc Vanderbilt 95, cb 98, Frisco City. Dailey, John Jonathan, mc Ala. 06, cb 06, Tunnel Springs. Dennis, Thomas Edmund, mc Univ. South 08, sb 08, Monroeville.

Eddins, Woodrow W., mc Rush 37, sb 37, Monroeville. McMillan, Samuel B., mc Atlanta 02, cb 02, Frisco City. Smith, Rayford A., mc Ala. 12, sb 13, Monroeville. Stallworth, William A., mc Emory 24, sb 24, Frisco City. Total 9

PHYSICIANS NOT MEMBERS

Stacey, Andrew G., mc Ky. 05, cb 06, Evergreen, Rt. 1. Total 1

(51) MONTGOMERY COUNTY Eufaula 1878

President—Claud Johnson	Montgomery
Vice-President—D. J. Long	Montgomery
Secretary-J. Sam Smith	. Montgomery
Treasurer—F. C. Stevenson	Montgomery
County Health Officer—J. L. Bowman	Montgomery

Censors-T. B. Hubbard, Chairman, Montgomery; C. G. Laslie, Montgomery; F. C. Stevenson, Montgomery; D. G. Gill, Montgomery; J. F. Dillon, Montgomery.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Anderson, Benjamin F., mc Ala. 08, sb 09, Sellers.

Andrews, Glenn, mc Univ. N. Y. 86, cb 86, 115 Cloverdale Rd., Montgomery.

Austin, Burton F., mc Ala. 17, sb 17, 519 Dexter Ave., Montgomery.

- Barnes, J. Mac Ilwaine, mc Emory 28, sb 28, Montgomery. (S.)
- Bartlett, Haywood S., mc Emory 29, sb 29, 36 Clayton St., Montgomery. (S.)
- Bazar, Philip S., mc McGill 36, sb 39, 201 Montgomery St., Montgomery.
- Benkwith, Karl B., mc Univ. Rochester 34, recip. Minn. 40, 36 Clayton St., Montgomery. (S.)
- Bickerstaff, James Warren, mc Emory 27, sb 28, 122 Church St., Montgomery.
- Bird, Buford Cosby, mc Emory 12, recip. Ga. 19, 221 S. Court St., Montgomery.
- Blue, George Eason, mc Columbia Univ. 15, sb 17, 201 Montgomery St., Montgomery.
- Blue, John Howard, mc P. & S. N. Y. 01, sb 01, 201 Montgomery St., Montgomery.
- Bograd, Nathan, mc St. Andrews (Scot.) 35, sb 36, 36 Clayton St., Montgomery. (S.)
- Boozer, Thomas S., mc Washington Univ. 37, sb 37, 28 Sayre Street, Montgomery.
- Bowman, James Luther, mc Univ. Va. 97, cb Bullock 01, City Hall, Montgomery.
- Branch, Jno. L., mc Harvard 26, Nat. Ex. Bd. 29, 310 Mont-
- gomery St., Montgomery. (S.) Britton, William R., mc Emory 29, recip. Ga. 35, 4 Catoma
- St., Montgomery. (S.) Broach, Norman Leslie, mc Emory 09, sb 03, Pine Level.
- Buchanan, John P., mc Ala. 92, cb Butler 92, 3 S. Court St.,
- Montgomery.
- Buresch-Henke, Hildegard, mc Univ. Breslau 34, sb 37, 123 Adams Avenue, Montgomery.
- Burke, Rush Pearson, mc P. & S. N. Y. 08, sb 10, 201 Montgomery St., Montgomery.
- Burwell, Philip K., mc Tulane 40, recip. La. 41, 811 Cloverdale Road, Montgomery.
- Cannon, Douglas Launeese, mc Jefferson 19, sb 20, 519 Dexter Ave., Montgomery.
- Clapp, Henry W., mc Univ. Mich. 33, recip. Mich. 41, 519 Dexter Avenue, Montgomery. (S.)
- Climo, Henry J., mc Ohio State 37, recip. Ohio 39, 119
- Adams Ave., Montgomery. (S.)
 Cobbs, Beverly Woodfin, mc Tulane 19, sb 19, 108 Moulton
 St., Montgomery.
- Cohen, Nace R., mc Emory 37, recip. Ga. 40, Gunter Building, Montgomery. (S.)
- Collins, Henry C., mc Emory 34, recip. Ga. 37, 201 Montgomery St., Montgomery. (S.)
- Cowles, A.D., mc Ala. 11, sb 11, Ramer.
- Daniel, William A., Jr., mc Northwestern 39, NBE 41, 4 Catoma St., Montgomery.
- Davis, John Walter, Jr., mc Univ. Va. 32, recip. Va. 37, 201 Montgomery St., Montgomery. (S.)
- Dawson, Harris Pickens, mc Tulane 10, sb 09, 17 Adams Ave., Montgomery.
- Dillon, John F., 3rd., mc Washington Univ. 36, recip. Mo.
- 39, 201 Montgomery St., Montgomery.

 Dodge, Eva, mc Univ. Md. 25, NBE 38, 519 Dexter Avenue,
 Montgomery.
- Farrior, James Harvey, mc Rush 30, recip. Ind. 34, Montgomery. (S.)
- Gill, Daniel Gordon, mc Univ. Toronto 22, sb 26, 519 Dexter Ave., Montgomery.
- Glazer, Harry, mc Tulane 31, recip. La. 34, Montgomery.
- (S.)
 Gunter, Wm. A. 3rd., mc Johns Hopkins 26, recip. N. J.
- 30, 203 S. Court St., Montgomery. (S.) Hagood, Daniel Salley, mc Tulane 25, recip. La. 26, First
- Nat. Bk. Bldg., Montgomery. Haigler, James Robert, mc Ala. 97, sb 97, 315 Narrow Lane Rd., Montgomery.
- Harris, Homer Persius, mc Tulane 21, sb 21, 122 Church St., Montgomery.
- Hill, James Fitts, mc P. & S. N. Y. 11, recip. Wash. 23, 305 Church St., Montgomery.

- Hill, Luther Leonidas, mc Univ. N. Y. 81, cb Jefferson 81, 21 S. Perry St., Montgomery.
- Hill, Luther L., Jr., mc Tulane 29, recip. La. 30, 24 S. Perry St., Montgomery. (S.)
- Hill, Robert Somerville, mc Univ. N. Y. 91, cb 91, 310 Montgomery St., Montgomery.
- Holding, Bruce Fowler, mc Va. 17, pro forma USN 21, 201 Montgomery St., Montgomery.
- Hough, James Spencer, mc Georgetown 93, recip. D. C. 23, 519 Dexter Ave., Montgomery.
- Hubbard, Thomas Brannon, mc P. & S. N. Y. 10, sb 12, 515 Forest Ave., Montgomery.
- Jackson, Benjamin Franklin, mc Vanderbilt 08, sb 07, 201 Montgomery St.. Montgomery.
- Jackson, B. Franklin, Jr., mc New York Univ. 36, recip. N. Y. 39, 201 Montgomery St., Montgomery. (S.)
- Johnson, Claud, mc Vanderbilt 32, recip. Tenn. 38, 201 Montgomery St., Montgomery.
- Johnson, Harald N., mc Univ. Neb. 33, NBE 42, 519 Dexter Avenue, Montgomery.
- Kaiser, Elias Noah, mc Long Island 32, recip. N. Y. 40, 123 Adams Avenue, Montgomery. (S.)
- Kirkpatrick, Milton Barnes, mc Tulane 96, cb Crenshaw 96, 201 Montgomery St., Montgomery.
- Lafferty, Charles R., mc LSU 34, recip. La. 40, St. Margaret's Hosp., Montgomery.
- Laslie, Carney G., mc Baltimore 03, cb Macon 03, 203 Catoma St., Montgomery.
- Leach, Charles Nelson, mc Leland Stanford 14, recip. Cal. 25, 519 Dexter Ave., Montgomery.
- Long, Daniel J., mc Ala. 16, sb 17, 203 Catoma St., Montgomery.
- Marks, Robt. H., mc Albany 31, recip. N. Y. 41, Montgomery Tuberculosis Sanatorium, Montgomery.
- Martin, Farris J., mc Tulane 29, recip. Miss. 31, Montgom-
- ery. (S.) Martin, John A., mc Vanderbilt 24, sb 24, 201 Montgomery
- St., Montgomery. (S.)
 McConnico, Frank Hawthorne, mc Tulane 99, cb Wilcox
- 99, 201 Montgomery St., Montgomery.
- McGehee, William Wallace, mc Ala. 07, sb 08, 201 Montgomery St., Montgomery.
- Meadows, Henry Howard, Jr., mc Washington Univ. 36, recip. Mo. 38, 201 Montgomery St., Montgomery. (S.)
- Mertins, Paul S., Jr., mc Columbia Univ. P. & S. 33, Nat. Ex. Bd. 35, Bartlett Bldg., Montgomery. (S.)
- Milligan, Rufus Lee, mc Univ. Nashville 03, cb Cullman 03, 201 Montgomery St., Montgomery.
- Monsky, David B., mc Tulane 33, sb 33, Montgomery. (S.)
- Montgomery, Arthur Hugh, mc Atlanta 98, cb 98, 201 Montgomery St., Montgomery.
- Mount, Bernard, mc Tulane 00, sb 06, 201 Montgomery St., Montgomery.
- Newdorp, John, mc Rush 36, recip. Ill. 41, 519 Dexter Avenue, Montgomery. (S.)
- Nodine, Edwin R., mc Tulane 25, recip. N. Y. 37, 201 Montgomery St., Montgomery.
- Parker, Chas. E. R., mc Vanderbilt 27, recip. Tenn. 29, Selective Service Headquarters, Montgomery. (S.)
- Penton, John Randolph, mc Emory 14, sb 15, 201 Montgomery St., Montgomery.
- Pollard, Charles Teed, mc Tulane 97, cb 97, 201 Montgomery St., Montgomery.
- Pye, Alice Hill, mc N. Y. Univ. 40, sb 40, 305 Church St., Montgomery.
- Reynolds, Fred Dawson, mc Johns Hopkins 16, recip. Pa. 19, 203 Catoma St., Montgomery.
- Riggs, Frank Willard, mc Univ. Va. 25, sb 25, 401 S. Court St., Montgomery.
- Rosen, Herman L., mc Vanderbilt 34, recip. Tenn. 36, 310 Montgomery St., Montgomery. (S.)
- Sellers, Wilbur Allen, mc Ala. 04, cb Bullock 04, 201 Montgomery St., Montgomery.
- Shackelford, Frank, mc Ala. 98, cb Lowndes 98, Hope Hull.

- Shelton, Samuel Wayne, mc Univ. Ark. 28, recip. Ark. 29, Kilby, Montgomery. (S.)
- Smith, James Lee, mc Atlanta P. & S. 10, sb 11, 310 Montgomery St., Montgomery.
- Smith, J. Sam, mc Univ. Louisville 36, recip. Ky. 40, 4 Catoma St., Montgomery.
- Smith, Walton H. Y., mc McGill 23, recip. Iowa 34, 519 Dexter Ave., Montgomery.
- Stevenson, Forney Caldwell, mc P. & S. N. Y. 93, cb Calhoun 93, 203 Catoma St., Montgomery.
- Stickley, Courtney S., mc Va. 33, recip. Va. 35, 201 Montgomery St., Montgomery
- Stough, William Vesta, mc Ala. 07, cb 07, 201 Montgomery St., Montgomery.
- Suggs, Samuel D., mc Ala. 05, cb 05, 310 Montgomery St., Montgomery.
- Tankersley, William, mc Ky. 06, cb Crenshaw 06, Hope Hull.
- Thigpen, Charles Alston, mc Tulane 88, cb Butler 88, 401 S. Court St., Montgomery.
- Thigpen, Francis M., mc Tulane 34, recip. Minn. 40, 401 S. Court St., Montgomery. (S.)
- Thomas, Archie E., mc Vanderbilt 24, sb 24, 17 Adams Ave., Montgomery.
- Thompson, Holland, mc Univ. Mich. 24, recip. Mich. 38, 519 Dexter Avenue, Montgomery
- Thorington, Thomas Chilton, mc Tulane 94, cb 94, 101/2 Court Square, Montgomery.
- Trumper, Abraham, mc Jefferson 11, sb 12, 201 Montgomery St., Montgomery.
- Van Wezel, Norman, mc Western Reserve 35, recip. Ohio 39, 17 Adams Avenue, Montgomery.
- Watkins, J. Harold, mc Tulane 27, sb 27, 401 S. Court St.,
- Montgomery. (S.) Weil, Clarence K., mc Columbia Univ. 23, sb 27, 119 Adams Ave., Montgomery. (S.)
- Westcott, William B., mc P. & S. N. Y. 02, sb 02, 203 Catoma St., Montgomery.
- Wilkerson, Fred Wooten, mc P. & S. N. Y. 09, sb 09, 201 Montgomery St., Montgomery.
- Wilkerson, William Washington, mc Tulane 19, sb 19, 201 Montgomery St., Montgomery.
- Wilkinson, Henry B., mc Univ. Va. 94, cb Tuscaloosa 96, 201 Montgomery St., Montgomery.
- Wilson, Robert Kemp, mc Univ. Ga. 28, NBE 37, 519 Dexter Avenue, Montgomery.

Total 102

PHYSICIANS NOT MEMBERS

- Adair, R. T. (col.), mc Amer. Missionary 10, sb 11, 2081/2 Monroe St., Montgomery.
- Black, J. Henry, mc Ala. 05, sb 05, 121/2 Dexter Ave., Montgomery.
- Boyd, Lynn Matthews, mc Ala. 01, cb Macon 01, 12 Forest Ave., Montgomery.
- Calloway, J. W., mc Vanderbilt 82, cb Butler 82, 521 Columbus Avenue, Montgomery.
- Eubanks, Schuyler 'C., mc Ala. 02, cb Covington 02, 301 Capitol Ave., Montgomery.
- Grey, W. E. (col.), mc Amer. Missionary 10, sb 13, 1211/2 Monroe St., Montgomery.
- Hicks, James B., mc Johns Hopkins 24, recip. Md. 41, 201 Montgomery St., Montgomery.
- Johnson, Hugh Dent, mc Tenn. 33, recip. Tenn. 36, 310 Montgomery St., Montgomery.
- McLean, Jas. Neal, mc Tulane 98, cb Lowndes 99, Snowdoun.
- Pettus, William Dean (col.), mc Meharry 34, recip. Tenn. 35, 29212 W. Jeff Davis Ave., Montgomery
- Ross, Freeland Floyd (col.), mc Howard 27, sb 27, 361/2 N. Lawrence St., Montgomery.
- Smothers, Chas. Washington (col.), mc Meharry 32, recip. Tenn. 33, Mt. Meigs.
- Stokes, Ewel M., mc Atlanta P. & S. 14, sb 14, 12 Court Sq., Montgomery.
- Washington, William (col.), mc Meharry 06, cb Lowndes 06, 283 Ş. Jackson St., Montgomery.

- Wilborn, Don (col.), mc Leonard 09, sb 10, 1231/2 Monroe St., Montgomery.
- Wynn, Andrew Lee, mc Md. 89, cb Covington 03, Mt. Meigs Rd., Montgomery.

Total 16

HONORARY MEMBER

Damon, S. R., Ph. D., 519 Dexter Avenue, Montgomery.

(52) MORGAN COUNTY Mobile 1876

President-C. K. Pitt	Decatur
Vice-President—A. M. Roan	Decatur
Secretary-Treasurer—L. R. Murphree	Decatur
County Health Officer—L. R. Murphree	Decatur

Censors-E. R. Emens, Chairman, Decatur; F. L. Chenault, Decatur; W. H. Lovelady, Hartselle; A. J. Dinsmore, Decatur; J. C. Bragg, Decatur.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

- Anderson, Walton H., mc Vanderbilt 18, recip. Tenn. 19, Decatur.
- Bailey, William Clifford, mc Ala. 06, cb Dallas 06, Decatur.
- Block, William Henry, mc Tenn. 36, recip. Tenn. 37, Hart-
- Bragg, Jno. C., mc Ala. 17, sb 17, Decatur.
- Brindley, Thaddeus B., mc Georgia Eclectic 91, cb 00, Hartselle.
- Burch, John T., mc Ala. 06, cb Lawrence 06, Hartselle. Chenault, Erskine M., mc Vanderbilt 25, recip. Tenn. 26, Decatur.
- Chenault, Frank L., mc Ala. 04, cb Lawrence 04, Decatur. Cleere, Ruel C., mc Ala. 09, sb 09, Danville.
- Dinsmore, A. J., mc Chicago P. & S. 16, recip. Ill. 20, Decatur.
- Emens, Edward Redding, mc Vanderbilt 27, recip. Tenn. 28. Decatur.
- Greer, Hugh Dixon, mc Ala. 10, sb 10, Decatur.
- Guyton, Thomas M., mc Vanderbilt 35, recip. Tenn. 38, Decatur.
- Hamil, James Young, mc Ala. 16, sb 16, Decatur.
- Howle, Jas. Augustus, mc Ala. 90, cb Elmore 90, Hartselle.
- Hughes, J. W., mc Loyola 16, sb 17, Decatur.
- Lovelady, William H., mc Ala. 97, cb 97, Hartselle.
- Murphree, Lee Roy, mc Vanderbilt 23, sb 23, Decatur.
- Nungester, Garrold H., mc Tulane 33, sb 33, Decatur. (S.)
- Pitt, Charles K., mc Tulane 39, recip. La. 41, Decatur.
- Ramey, Daniel R., Jr., mc Tenn. 36, recip. Tenn. 37 Hartselle, (S.)
- Roan, Avery M., mc Chicago M. & S. 14, sb 14, Decatur. Teagarden, Elmer J., mc Johns Hopkins 26, NBE 42, Decatur
- White, Arthur Marion, mc Ala. 09, sb 10, Hartselle. Total 24.

PHYSICIANS NOT MEMBERS

- Baugh, Wendell Phillip, mc Louisville 11, recip. Tenn. 23, Decatur.
- Booth, William M., mc Vanderbilt 02, cb Jackson 02, Hart-
- Cashin, Newlyn E. (col.), mc Howard 08, sb 08, Decatur. Sherard, Winston H. (col.), mc Meharry 08, recip. Ga. 25, Decatur.
- Vinson, Noley H., mc Tulane 35, sb 36, Falkville.
- Wiley, James B., mc Tenn. 32, recip. Tenn. 34, Decatur. Total 6

(53) PERRY COUNTY Montgomery 1875

President—J. R. Dawson	Uniontown
Vice-President-M. H. Eskew	Uniontown
Secretary-Treasurer—J. R. Long	Marion
County Health Officer—J R Long	Marion

Censors—S. A. Gordon, Chairman, Marion; M. H. Eskew, Uniontown; J. V. Howell, Marion; C. B. Robinson. Marion; D. A. Mason, Suttle.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Dawson, James R., mc Vanderbilt 03, cb Jefferson 03. Uniontown.

Eskew, M. H., mc Univ. Va. 17, sb 17, Uniontown. Gordon, Samuel A., mc Ala. 95, cb Lowndes 95, Marion. Hanna, Robert Cunningham, mc Louisville 02, cb 02, Marion.

Howell, John V., mc Tulane 21, sb 21, Marion.
Jones, Thomas J., mc Ala. 15, sb 18, Marion.
Long, John Reed, mc Tenn. 25, sb 25, Marion.
Mason, David Adams, mc Md. 04, sb 04, Suttle.
Robinson, Cornelius B., mc Louisville 92, cb Lowndes 92,

Wilkerson, Arthur F., mc Univ. Pa. 34, sb 36, Marion. (S.)
Total 10

PHYSICIANS NOT MEMBERS

None.

(54) PICKENS COUNTY Eufaula 1878

President-T. R. McLellan	Aliceville
Secretary-Treasurer-V. L. Ashcraft	Reform
County Health Officer—J. H. Ashcraft*	Carrollton

Censors—H. W. Hill, Chairman, Carrollton; V. L. Ashcraft, Reform; A. T. Kirk, Gordo, Rt. 2; C. M. Murphy, Aliceville; L. C. Davis, Gordo.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Ashcraft, Virgil Lee, mc Ala. 12, sb 12, Reform.

Davis, John Lewis, mc Vanderbilt 91, cb Tuscaloosa 91,

Gordo

Davis, Lewis Clifton, mc Emory 15, sb 15, Gordo. Duncan, Wm. W., mc Ala. 00, cb Fayette 00, Aliceville. Hill, Hugh Wilson, mc Ala. 04, cb 04, Carrollton. Kirk, Albert Thomas, mc Memphis Hosp. 02, cb 02, Gordo, Rt. 2.

McLellan, Thomas Roy, mc Memphis Hosp. 03, cb 03, Aliceville.

Murphy, C. M., mc Ala. 98, cb Greene 98, Aliceville. Parker, Sheffie Rufus, mc Ala. 09, sb 09, Aliceville. Shackleford, Walter Lee, mc Memphis 13. sb 08, Gordo, Rt. 1.

Spruill, George Edward, mc Memphis Hosp. 01, cb 02, Ethelsville.

Wimberly, Gilbert B., mc Ala. 92, cb Lamar 92, Reform. Total 12

PHYSICIANS NOT MEMBERS

Snoddy, Ephriam Alex, mc Ala. 97, cb Lamar 97, Aliceville.

Total 1

(55) PIKE COUNTY Eufaula 1878

President—T. D. Cowles	Troy
Vice-President-W. P. Stewart	Troy
Secretary—H. M. Sacks	Troy
Treasurer—T. D. Cowles	Troy
County Health Officer—W. H. Abernethy	Troy

Censors—R. B. Beard, Chairman, Troy; H. M. Sacks, Troy; T. D. Cowles, Troy; W. P. Stewart, Troy; W. B. Sanders, Troy.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Abernethy, Wm. Henry, mc Ala. 09, sb 09, Troy. Beard, Robert Briggs, mc Tulane 13, sb 13, Troy. Beck, Chester Keith, mc Tenn. 34, recip. Tenn. 36, Troy. (S.)

Colley, James O., Jr., mc Tulane 34, recip. La. 35, Troy. Cowles, Thomas DeWitt, mc Ala. 18, sb 18, Troy. Edge, Oscar Nelson, mc P. & S. Atlanta 10, sb 10, Troy. Grant, Charles Augustus, mc Tenn. 08, sb 12, Goshen. Johnston, Francis Thomas, mc Ala. 20, sb 20, Brundidge. Johnston, John David, mc P. & S. Atlanta 00. sb 01, Brundidge.

Killingsworth, Noah W., mc Tulane 25, sb 25, Brundidge. Kirklin, Marion A., mc Ala. 13, sb 13, 915 Palmetto St., Mobile.

Reynolds, Grover C., mc Tulane 11, sb 11, Brundidge. Sacks, Herman M., mc Louisville 35, recip. Ky. 37, Troy. Sanders, William Bryan, mc Atlanta Sou. 85, cb 85, Troy. Stallings, Homer Sylvanus, mc P. & S. Atlanta 62, cb 02. Troy.

Stewart, William P., mc Tulane 32, recip. La. 35 Troy. Total 16

PHYSICIANS NOT MEMBERS

Innis, Samuel B. (col.), mc Meharry 05, sb 05, Troy.
Total 1

(56) RANDOLPH COUNTY Eufaula 1878

President-R. C. Lovvorn	Newell
Vice-President-O. C. Mastin	Wedowee
Secretary-Treasurer-W. W. Stevenson	Roanoke
County Health Officer-M. L. Shaddix*	Wedowee

Censors—R. C. Lovvorn, Chairman, Newell; J. T. Clack, Wadley; C. E. Ford, Roanoke; O. C. Mastin, Wedowee; J. R. Manley, Roanoke.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Bonner, Gerson W., mc Emory 31, sb 31, Roanoke.
Bonner, William Wallace, mc Atlanta Sou. 92, sb 92, Rock

Clack, J. Thos., mc Ala. 11, sb 11, Wadley. Ford, Charles Edward, mc Atlanta 14, sb 14, Roanoke. Gay, Andrew Jackson, mc Chicago M. & S. 13, sb 14, Roanoke.

Lovvorn, Robert C., mc Atlanta 12, sb 12, Newell. Manley, John Radney, mc Memphis Hosp. 13, sb 20, Roanoke.

Mastin, Orville Charles, mc Detroit 86, sb 08, Wedowee. Stevenson, William Worth, mc Ala. 03, cb 03, Roanoke. Ussery, Gordon Clopton, mc Emory 19, recip. Ga. 22, Roanoke.

Total 10

PHYSICIANS NOT MEMBERS

Denney, Thomas H., mc Atlanta 15, sb 15, Wadley. Swann, Joseph Charles, mc Ala. 90, cb 92, Wedowee, Total 2

(57) RUSSELL COUNTY Tuscaloosa 1887

President—Clarence Long	Hurtsboro
Vice-President—S. J. Floyd	Phoenix City
Secretary-Treasurer—John Prather	Seale
County Health Officer—R. W. Todd	Phoenix City

Censors—Clarence Long, Chairman, Hurtsboro; John Prather, Seale; R. B. McCann, Seale; R. S. Watkins, Phoenix City; R. C. Prather, Phoenix City.

^{*}See also Fayette County.

^{*}See also Clay County.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Floyd, Seth J., mc Tulane 25, recip. La. 26, Phoenix City. Long, Clarence, mc Chattanooga 01, cb Barbour 02, Hurtsboro.

McCann, Richard Bennett, mc Atlanta 11, sb 11, Seale. Prather, John, mc Ala. 09, sb 09, Seale.

Prather, Robert Clark, mc Ala. 98, cb 98, Phoenix City. Watkins, Richard S., mc Vanderbilt 81, cb Morgan 81, Phoenix City.

Total 6

PHYSICIANS NOT MEMBERS

Allen, Arthur Redding, mc Atlanta 97, cb 98, Fort Mitchell. RFD.

Brooks, Roland L., mc Atlanta 16, rccip. Ga. 30, Phoenix City, Rt. 2.

Floyd, Ashby, mc Tulane 89, cb Lee 95, Phoenix City. Kebe, George B. (col.), mc Meharry 38, recip. Tenn. 41, Phoenix City.

Todd, Robert W., mc Atlanta P. & S. 12, sb Ga. 12, Phoenix City.

Total 5

(58) SHELBY COUNTY Birmingham 1877

President-J. H. Crawford		Columbiana
Vice-President-K. N. Gould		Wilsonville
Secretary-Treasurer—Willena	Peck .	Montevallo
County Health Officer-E. F.	Sloan	Columbiana

Censors—J. M. Ryan, Chairman, Helena; J. C. Embry, Vincent; J. H. Crawford, Columbiana; J. I. Reid, Montevallo; E. F. Sloan, Columbiana.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Acker, Charles Thomas, mc Ala. 00, cb 00, Montevallo. Bridges, Terrell, mc Ala. 15, sb 23, Montevallo. Crawford, James H., mc Tulane 22, sb 22, Columbiana. Curtis, Robert C., mc Memphis Hosp. 01, cb 01, Calera. Embry, Jerre Carl, mc Atlanta 89, cb St. Clair 89, Vincent. Evans, Kenneth P., mc Rush 29, sb 30, Boothton. Eversole, William C., mc Univ. Va. 34, recip. Va. 36, Vincent.

Gould, Kenneth N., mc Louisville 31, recip. Ky. 36, Wilsonville.

Hines, John Allen, mc Tulane 21, sb 21, Siluria.
Hubbard, Leslie H., mc Washington Univ. 37, sb 37, Wilton. (S.)

Parnell, Leighton C., mc Tenn. 28, recip. Tenn. 29, Monte-

Peck, Willena, mc Woman's of Baltimore 00, sb 15, Montevallo.

Reid, John Inzer,mc Univ. Nashville 06, cb Blount 06, Montevallo.

Ryan, J. M., mc Ala. 15, sb 17, Helena.
Sanders, Elbert H., mc Tulane 41, sb 42, Columbiana.
Sloan, Elihu Frank, mc Emory 16, sb 16, Columbiana.
Smith, Thomas O., ng, cb Bibb 07, Wilsonville.
Total 17.

PHYSICIANS NOT MEMBERS

None.

(59) ST. CLAIR COUNTY Eufaula 1878

President—T. L. Rennie	Pell City
Vice-President—R. C. Bains	Springville
Secretary-Treasurer-J. A. Watson	Springville
County Health Officer – Juanita Bolton	Ashville

Censors—J. T. Roberson, Chairman, Riverside; R. C. Bains, Springville; H. S. Awtrey, Ashville; R. A. Martin, Pell City; J. A. Watson, Springville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Awtrey, Hobart S., mc Tulane 23, sb 23, Ashville. Bains, Richard C., mc Ala. 98, cb 07, Springville. Boggan, Jeff. M., mc Tulane 21, sb 22, Ragland. Bolton, Juanita, mc Woman's Med. Col. of Pa. 41, sb 42, Ashville.

Brown, Jackson Tucker, mc Ala. 97, cb 98, Ragland. Edmundson, Henry C., mc Ala. 15, sb 20, 5100 13th Avenue N., Eastwood Trailer Park, Birmingham. Martin, Robert A., mc Vanderbilt 01, cb 01, Pell City.

Martin, Robert A., mc Vanderbilt 01, cb 01, Pell City.
Parker, Paul H., mc Tulane 37, recip. Miss. 40, Margaret.
(S.)

Pryor, Robert B., mc Tulane 05, cb Dallas 06, Pell City. Rennie, Thos. L., mc Tulane 19, sb 19, Pell City. Roberson, John T., mc Ala. 03, cb 03, Riverside. Watson, James Alex., mc Ala. 03, cb Jefferson 03, Spring-ville.

Total 12

PHYSICIANS NOT MEMBERS

Parham, John B., mc Bennett 15, recip. Ga. 23, Margaret.

(60) SUMTER COUNTY Mobile 1876

Censors—W. J. McCain, Chairman, Livingston; J. C. McDaniel, York; R. E. Hale, Bellamy; J. P. Scales, Livingston; R. A. Spratt, Livingston.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Byrnes, David C. J., mc Ala. 09, sb 09, Bellamy. Hale, Robert Eugene, mc Chattanooga 04, cb Cullman 04, Bellamy.

Harwood, Robert Ellyson, mc Ala. 00, cb 00, Gainesville. Hester, Forest Lee, mc Tenn. 06, cb 06, Coatopa, RFD. Hill, Robert Carl, mc Tulane 25, recip. La. 26, York. Hunt, Horace C., mc Univ. Tenn. 32, recip. Tenn. 37, Livingston. (S.)

Jackson, C. A., mc Ala. 02, sb 08, York. Jackson, Leonidas F., mc Ala. 01, cb Fayette 01, Panola. McCain, William Jasper, mc Ala. 91, cb Mobile 91, Livingston.

McDanicl, Joseph Columbus, mc Ala. 04, cb 04, York. Minus, J. A., mc Ala. 08, sb 08, Epes. Moore, E. M., mc Ala. 11, sb 13, Livingston. Scalcs, John Perkins, mc Louisville 97, cb 97, Livingston. Spratt, Robert D., mc Tulane 02, cb 02, Livingston. Wrenn, W. J., mc Ala. 08, sb 08, Sumterville.

Total 15

PHYSICIANS NOT MEMBERS

Boyd, Austin Francis, mc Ala. 14, sb 14, Emelle. Gibbs, Jesse Augustus, mc Ala. 07, cb 07, Gainesville. Jones, Joseph Francis, mc Atlanta 01, cb 01, Cuba. Knighton, Thomas A., mc Louisville 89, cb Choctaw 90, York.

Total 4

(61) TALLADEGA COUNTY Anniston 1886

President—R. P. Stock	Childersburg
Vice-President-J. A. Sims	Renfroe
Secretary—J. H. Hill	Talladega
Treasurer—R. C. Winslow	Sylacauga
County Health Officer—J. H. Hill	Talladega

Censors—R. C. Stewart, Chairman, Sylacauga; C. L. Salter, Talladega; D. P. Dixon, Talladega; Paul Nickerson, Sylacauga; C. W. C. Moore, Talladega.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Bradford, Cecil Rhodes, mc Vanderbilt 24, recip. Tenn. 41, E. I. du Pont de Nemours & Co., Sylacauga. Brice, J. Arthur, mc Ala. 13, sb 13, Sycamore. Colvin, Gus Wilson, mc Tulane 27, recip. La. 28, Lincoln. Craddock, French H., mc Tulane 12, sb 14, Sylacauga. Craddock, French H., Jr., mc Tulane 39, recip. La. 40, Syl-

Davis, Sumner D., mc Univ. Pa. 33, sb 36, Talladega. (S.)
Dixon, Duncan Patterson, mc Tulane 01, cb 01, Talladega.
Gilbert, Harold F., mc Hahnemann 38, recip. Maine 42,
Sylacauga.

Hill, James H., mc Ala. 09, sb 09, Talladega.
McLaurin, Bernard, mc Ala. 10, sb 10, Lincoln.
Moore, Carey W. C., mc Ala. 13, sb 14, Talladega.
Nickerson, Paul, mc Tulane 31, sb 31, Sylacauga.
Pitchford, John D., mc Emory 22, sb 22. Sylacauga.
Price, Arthur L., mc Hahnemann 37, recip. Md. 42, E. I. du Pont de Nemours & Co., Sylacauga.

Salter, Clarence L., mc Ala. 11, sb 11, Talladega.
Shearer, Francis E., mc Univ. Louisville 40, recip. Ky. 41,
Sylacauga.

Sherman, Morris, mc LSU 40, recip. La. 41. Sylacauga.
Sims, James Anthony, mc Univ. Nashville 07, cb 07, Renfroe.

Stewart, Roscoe C., mc Ala. 13, sb 14, Sylacauga. Stewart, Russell T., mc Long Island 40, recip. N. Y. 42, Sylacauga.

Stock, Robert Paul, mc S. C. 28, sb 28, Childersburg. Teague, Eldred B., mc Pa. 34, recip. Pa. 36, Talladega. (S.) Terry, Lucius Lamar, mc Tenn. 16, sb 16, Sylacauga. Toole, Arthur F., mc Harvard 35, recip. Pa. 39, Talladega. Warwick, Bishop B., mc Tulane 02, cb 02, Talladega. Washam, Marvin, mc Tulane 23, sb 23, Talladega. Whetstone, A. K., mc Ala. 14, sb 14, Sylacauga. Winslow, Robert C., mc Univ. Kansas 35, recip. Kansas 36, Sylacauga.

Wren, Edward Bates, mc Ala. 90, cb 90, Talladega. Total 29

PHYSICIANS NOT MEMBERS

Brooks, Alpheus Olin, mc Atlanta 87, cb Clay 87, Lincoln, Rt. 1 (Retired).

Brothers, Warren H. (col.), mc Meharry 08, sb 08, Talladega.

Jones, Elisha Henry (col.), mc Univ. West Tenn. 09, sb 09, Talladega.

Jones, Wade Anthony (col.), mc Denver Homeopathic 01, recip. Col. 38, Sylacauga.

Kelley, J. P. (col.), mc Howard 33, sb 34, Talladega. Owings, Thomas L., mc Emory 24, sb 24, Childersburg. Total 6.

(62) TALLAPOOSA COUNTY Selma 1879

President—J. L. Denney	Alexander City
Vice-President-J. F. Fargason	E. Tallassee
Secretary-Treasurer-L. H. Hamner	Dadeville
County Health Officer-L. H. Hamner	Dadeville

Censors—J. A. Chapman, Chairman, Alexander City; J. T. Banks, Dadeville; J. F. Cameron, Alexander City; W. D. Wood, Camp Hill; J. E. Walker, Dadeville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Askin, Henry Ernest, mc Tulane 36, recip. La. 37, Alexander City. (S.)

Banks, Joseph Todd, mc Atlanta P. & S. 13, sb 13, Dadeville,

Bennett, J. L., mc Univ. Tenn. 31, recip. Tenn. 40, E. Tallassee.

Cameron, James E., mc Tulane 30, sb 31, Alexander City. Chapman, James A., mc Ala. 05, cb 05, Alexander City. Denney, John Lofton, mc Emory 21, sb 21, Alexander City.

Fargason, James F., mc Tenn. 32, sb 33, E. Tallassee.
Foshee, Reuben A., mc Ala. 07, cb 07, Alexander City,
Rt. 5.

Hamner, Harper Taliaferro, mc Vanderbilt 89, cb Chambers 90, Camp Hill.

Hamner, Lewis Herschel, mc Vanderbilt 16 sb 16, Dadeville.

Kent, James M., mc Rush 37, sb 37, E. Tallassee. (S.) Lamberth, Wade C., mc Wash. Univ. 35, recip. Mo. 36, Alexander City.

Newman, Lucian, mc Tenn. 31, sb 31, Dadeville. (S.) Street, Thomas H., mc Jefferson 00, cb 00, Alexander City. Walker, James Elliott, mc Louisville 36, recip. Ky. 41, Dadeville.

Walls, J. J., mc Ala. 16, sb 16, Alexander City.
Wood, Wiley Dennis, mc Ala. 08, sb 09, Camp Hill.
Wood, William Gross, mc Emory 41, sb 42, Camp Hill. (S.)
Total 18

PHYSICIANS NOT MEMBERS

None

(63) TUSCALOOSA COUNTY Birmingham 1877

President-S. T. Hardin	Tuscaloosa
Vice-President-Maxwell Moody	Tuscaloosa
Secretary-Treasurer—C. J. Fisher	Tuscaloosa
County Health Officer—C. J. Fisher	Tuscaloosa

Censors—A. M. Walker, Chairman, Tuscaloosa; J. S. Bealle, Holt; J. S. Tarwater, Tuscaloosa; J. E. Shirley, Tuscaloosa; Ruby E. L. Tyler, Tuscaloosa.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Abbott, Chas. E., Jr., mc Tulane 22, sb 22, Tuscaloosa. (S.) Anderson, William D., mc George Washington Univ. 28, sb 29, University. (S.)

Bealle, James S., mc Univ. Nashville 06, cb 06, Holt. Booth, James L., mc Ala. 11, sb 11, Elrod.

Brook, Clarence L., mc Tulane 38, recip. La. 40, Holt. Bush, J. D., Jr., mc Rush 36, sb 36, University.

Christian, James S., mc Ala. 12, sb 12, Tuscaloosa (Alberta City).

Clements, Ralph M., mc Rush 30, sb 32, Tuscaloosa. (S.) Cochrane, Robert H., Jr., mc Tulane 29, sb 29, Tuscaloosa. (S.)

Collier, James P., mc Tulane 29, sb 29, Tuscaloosa. (S.) Conwill, Gratton B., mc Tulane 26, sb 26, Tuscaloosa. Davis, Luther, Jr., mc Wash. Univ. 34, sb 36, Tuscaloosa. (S.)

De Ryke, Gilbert R., mc Univ. Cincinnati 39, recip. Ohio 42, Tuscaloosa.

Faulk, William Mark, mc Ala. 97, cb Barbour 97, Tuscaloosa.

Fisher, Charles Jack, mc Tulane 34, sb 34, Tuscaloosa. Fitts, Alston, mc P. & S. N. Y. 95, cb 00, Tuscaloosa. Forney, J. M., mc Rush 26, sb 28, Tuscaloosa. (S.) Goode, J. Henry, mc Tulane 26, sb 26, Tuscaloosa.

Graves, Stuart, mc Syracuse 11, recip. Ky. 28, University. Guin, James C., Sr., mc Univ. Nashville 09, sb 09, Moores Bridge.

Guin, James C., Jr., mc Long Island 38, sb 40, Moore's Bridge. (S.)

Hall, George W., mc Ala. 14, sb 15, Northport. Hamilton, Eugene H., mc Washington Univ. 38, recip. Mo.

40, University. (S.)
Hamilton, S. G., mc Ala. 02, cb Elmore 02, Tuscaloosa.

Hardin, Samuel T., mc Ala. 14, sb 14, Tuscaloosa. Jordan, Otis Leon, mc LSU 34, recip. La. 35, Tuscaloosa. Kay, Frank A., mc Emory 22, sb 22, Tuscaloosa. Kennedy, Jacob Jenkins, mc Washington Univ. 98, recip.

Mo. 30, Tuscaloosa.

Kirk, Arthur A., mc Ala. 97, cb Pickens 97, Tuscaloosa. Lawrence, Toombs, mc Ala. 12, sb 12, Tuscaloosa. Leach, Sydney, mc Univ. Va. 96, cb 97, Tuscaloosa. Majors, W. B., mc Tulane 22, sb 23, Tuscaloosa. (S.) Maxwell, Joseph Alston, mc Tulane 12, sb 09, Tuscaloosa. Mayfield, Peabody B., mc Tenn. 29, sb 30, Tuscaloosa. McBurney, Ralph, mc Rush 29, sb 30, University. Moody, Maxwell, mc Tulane 13, sb 14, Tuscaloosa. Partlow, Rufus C., mc Ala. 12, sb 13, Tuscaloosa. Partlow, William D., mc Ala. 01, cb St. Clair 01, Tuscaloosa.

Patton, Thomas Herbert, Jr., mc Tulane 41, sb 41, Tuscaloosa (S.)

Price, Earl Sanders, mc Emory 16, sb 16, Tuscaloosa. Reim, Norman H., mc Univ. Tenn. 37, recip. Tenn. 42, Tuscaloosa.

Searcy, Harvey Brown, mc Univ. Mich. 07, cb 07, Tuscaloosa. (S.)

Shamblin, James Roscoe, mc Tulane 28, sb 29, Tuscaloosa. (S.)

Shamblin, John L., mc Emory 23, sb 23, Tuscaloosa. Shamblin, R. Dawson, mc LSU 33, recip. La. 36, Tuscaloosa. (S.)

Shamblin, W. Grover, mc Ala. 19, sb 19, Tuscaloosa.Shirley, Joseph Emil, mc Ala. 09, cb 10, Tuscaloosa.Smith, James Donald, mc N. Y. Univ. 36, recip. N. Y. 38, Tuscaloosa.

Tarwater, James S., mc Tenn. 23, sb 23, Tuscaloosa.

Tyler, Ruby E. L., mc Tulane 25, recip. Miss. 30, Tuscaloosa.

Walker, Audiss M., mc Ala. 11, sb 11, Tuscaloosa.
Wiesel, Bertram H., mc Pa. 37, sb 37, Tuscaloosa.
Wilson, John W., mc Vanderbilt 03, cb Dallas 03, Tuscaloosa.

Woodruff, L. H., mc Ala. 13, sb 14, Tuscaloosa. Total 54

PHYSICIANS NOT MEMBERS

Donchoo, John H., mc Memphis Hosp. 99, cb Pickens 05, Abernant.

Hausman, Christopher Pfeiffer, mc Ala. 10, sb 10, Coaling. Mayfield, Surry F., mc Tulane 96, cb 96, Tuscaloosa. McKenzie, Andrew B. (col.), mc Leonard 12, sb 12, Tuscaloosa.

Pruett, Eber Austin, mc Ala. 00, cb Calhoun 00, Peterson. Smothers, Robt. E. L., mc Ala 97, cb Lamar 03, Northport, Total 6

(64) WALKER COUNTY Mobile 1876

President—James Andrew Vice-President—P. E. Gwin	Cordova Sumiton
Secretary-Treasurer—J. L. Sowell	
County Health Officer—A. M. Waldron	Jasper

Censors—A. C. Jackson, Chairman, Jasper; H. J. Sankey, Nauvoo; J. L. Sowell, Jasper; J. C. Gladney, Jasper; L. M. Walker, Jasper.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Andrew, James, mc Ga. 22, recip. Ga. 25, Cordova. Baker, Reginald William, mc LSU 35, recip. La. 36, Dora. Camp, Joseph S., mc Tulane 31, recip. La. 33, Jasper. Cunningham, William Moody, mc Vanderbilt 84, cb 84, Jasper.

Donaldson, Bailus E., mc Tenn. 15, sb 26, Carbon Hill. Gladney, James C., mc Jefferson 24, recip. Pa. 26, Jasper. Gwin, Paul Eugene, mc Tulane 06, cb Jefferson 06, Sumiton.

Hare, Roy Noland, mc Vanderbilt 25, recip. Tenn. 26, Jasper.

Jackson, A. C., mc Tulane 16, sb 19, Jasper. Jones, Giles W., mc Grant 01, cb 08, Parrish. Lovett, W. J., mc Ala. 09, sb 10, Sipsey.

Manasco, Hobson, inc Vanderbilt 39, recip. Tenn. 40, Carbon Hill. (S.)

Maneval, Karl E., mc Univ. Pa. 34, NBE 42, Mexico, Mo. Moody, William E., mc S. C. 40, sb 40, Empire. Payne, Thos. J., Jr., mc Tulane 35, recip. La. 36, Jasper. Sankey, Howard J., mc Ala. 01, cb Choctaw 01, Nauvoo. Shepherd, Robert H., mc Ala. 10, sb 10, Jasper.

Sherer, Raymond J., mc Univ. Tenn. 32, recip. Tenn. 34, Pittsburg, Pa.

Shores, Sterling S., Jr., mc Ala. 13, sb 14, Carbon Hill. Simpson, John Wesley, mc Memphis 13, sb 22, Parrish. Smith, Merle E., mc Nebraska 29, sb 30, Parrish. (S.) Snow, William R., mc Chattanooga 08, sb 13, Jasper. Sowell, James Lawrence, mc Tulane 91, cb Monroe 91, Jasper.

Taylor, Charter Howard, mc Ala. 18, sb 19, Bankhead. Thetford, J. Dimmick, mc Duke 39, NBE 41, America. Waldrop, Allen Marion, mc Univ. South 08, sb 09, Jasper. Walker, L. M., mc Ala. 11, sb 11, Jasper. Watkins, Homer Stribling, mc Tenn. 37, sb 38, Coal Valley.

Whitney, Ollie H., mc Louisville 90, cb Fayette 90, Carbon Hill.

Wickliffe, T. F., mc Tulane 03, recip. La. 20, Jasper. Total 30

PHYSICIANS NOT MEMBERS

Blanton, Frank, mc Grant 03, cb 06, Saragossa. Busby, Elias D., mc Ala. 10, sb 11, Parrish, Rt. 1. Manasco, Titus, mc Memphis 97, cb 97, Carbon Hill. Owen, Herndon G., mc Ala. 08, sb 08, Quinton, Rt. 2. Total 4

(65) WASHINGTON COUNTY Tuscaloosa 1887

President-W. E. Kimbrough	Chatom
Secretary-Treasurer—W. J. Blount	Millry
County Health Officer—Caroline Callison*	Chatom

Censors—W. J. Blount, Chairman, Millry; W. E. Kimbrough, Chatom.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Blake, William A., mc Emory 38, sb 38, Chatom. (S.) Blount, William James, mc Ala. 10, sb 10, Millry. Kimbrough, William E., Jr., mc Ala. 15, sb 15 Total 3

PHYSICIANS NOT MEMBERS

None

(66) WILCOX COUNTY Eufaula 1878

President—E. G. Burson Furman
Vice-President—J. A. Thompson Pine Apple
Secretary-Treasurer—J. Paul Jones Camden
County Health Officer—E. L. McIntosh Camden

^{*}See also Clarke County.

Censors—Walter Fudge, Chairman, Lamison; R. E. Dixon, Alberta; J. Paul Jones, Camden; J. A. Thompson. Pine Apple; P. E. Godbold, Pine Hill.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Burson, Ellis G., mc Ala. 06, cb Monroe 06, Furman. Dixon, Robert Emmett, mc Ala. 17, sb 17, Alberta. Fudge, Walter, mc Ala. 09, sb 09, Lamison.

Godbold, Percy E., mc P. & S. Atlanta 02, cb Marengo 02, Pine Hill.

Jones, J. Paul, Jr., mc Tulane 19, sb 19, Camden.

Mayer, Kossuth A., mc Memphis Hosp. 00, cb 00, Lower Peach Tree.

McIntosh, E. L., mc Atlanta 02, cb 02, Camden.

Moore, Will W., mc Vanderbilt 96, cb 96, Camden.

Speir, Ross C., mc Univ. Louisville 08, sb 08, Box 940, Jackson, Miss.

Thompson, John A., mc Ark. 31, sb 32, Pine Apple.
Total 10

PHYSICIANS NOT MEMBERS

McClurkin, William N., mc Ala. 17, sb 18, McWilliams, Rt. Total 1

(67) WINSTON COUNTY Montgomery 1888

President—R. Lee Hill Haleyville
Vice-President—R. F. Blake Haleyville
Secretary-Treasurer—W. E. Howell Haleyville
County Health Officer—J. I. Mitchell Double Springs

Censors—R. Lee Hill, Chairman, Haleyville; W. M. Goodsey, Haleyville; R. F. Blake, Haleyville; W. E. Howell, Haleyville; C. A. Olivet, Haleyville.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POSTOFFICES

Blake, Robert F., mc Tenn. 38, recip. Tenn. 40, Haleyville. Godsey, Wash M., mc Tenn. 29, sb 30, Haleyville. Hill, Robert Lee, mc Ala. 09, sb 09, Haleyville. Howell, William Edward, mc Ala. 00, cb 00, Haleyville. Miller, Robert H., mc Chattanooga 02, cb Fayette 06, Haleyville.

Mitchell, John Ira, mc Ala. 12, sb 13, Double Springs. Olivet, Charles Alonzo, mc Univ. Nashville 06, cb 06, Haleyville.

Total 7

PHYSICIANS NOT MEMBERS None.

Town and County

INDEX OF MEMBERS 1943

(S.) indicates that the physician is in the service of his country

Name

Name	Town and County
Abbott, C. E., Jr. (S.)	
	Petrey—Crenshaw
	Moundville—Hale
Abernethy, W. H.	Trov—Pike
Abernethy, W. L.	Troy—Pike Flomaton—Escambia
Abrams, M. J. (S.)	_ Brewton—Escambia
Acker, C. T.	Montevallo—Shelby
Acker, P. J. M.	Mobile—Mobile
Acker, C. T. Acker, P. J. M. Adams, G. W.	Huntsville—Madison
Adams, G. W. Adams, J. B. Adams, M. S.	Eufaula—Barbour
Adams, M. S.	Birmingham—Jefferson
Adams, M. Vaun	Mohile—Mohile
Akin, J. M. Alexander, W. W. (S.). Alford, O. T.	. Birmingham—Jefferson
Alexander, W. W. (S.)	Florence—Lauderdale
Alford, O. T.	. Gadsden—Etowah
Alison, J. F.	Selma—Dallas
Alison, S. B.	Minter—Dallas
Allen, J. W. (S.)	Dothan—Houston
Allen, R. H.	Abbeville—Henry
Allen, W. E.	Sweet Water-Marengo
Allgood, H. W.	Fairfield—Jefferson
Anderson, B, F.	Sellers-Montgomery
Anderson, H. L. (S.)	Birmingham—Jefferson
Anderson, T. J	Greensboro—Hale
Anderson, William	Glencoe, Rt. 2-Etowah
Anderson, W. D. (S.)	University—Tuscaloosa
Anderson, W. H.	Decatur—Morgan
Anderson, W. H. Anderson, W. O. (S.)	Alabama City—Etowah
Andress, D. G.	
Andrew, James	Cordova—Walker
Andrews, Glenn	
Andrews, N. L.	Birmingham—Jefferson
Anthony, J. C. Applebaum, S. L.	Birmingham—Jefferson
Applebaum, S. L.	Birmingham—Jefferson
Appleton, T. H.	
Argo, Eugene	Goodwater—Coosa
Argo, J. R	Tarrant—Jefferson
Armistead, J. R.	Prichard—Mobile
Armour, W. S.	Birmingham—Jefferson
Armistead, L. L.	
Ashcraft, J. H.	
Ashcraft, V. L.	

1101110	Town and County
Ashworth, R. F.	Birmingham—Jefferson
Askew, William (S.)	Auburn—Lee
Askin, H. E. (S.)	Alexander City—Tallapoosa
Atwood, A. L.	Birmingham—Jefferson
Austin, B. F.	Montgomery-Montgomery
Auston, P. W	West Point—Chambers
Awtrey, H. S.	
Bailey, W. C	Decatur—Morgan
Bains, R. C.	
Baker, R. W.	Dora—Walker
Banks, J. T.	Dadeville—Tallapoosa
Banks, J. T. Barber, H. D. (S.)	Favette—Favette
Barber, W. J.	Butler—Choctaw
Barber, W. J. Barclift, W. C., Jr. (S.)	Birmingham—Jefferson
Barker, H. E.	Boaz—Marshall
Barksdale, G. S.	Fernbank—Lamar
Barker, H. E. Barksdale, G. S. Barnard, R. M.	Arab—Marshall
Barnes, J. M. (S.)	Montgomery-Montgomery
Bartlett, H. S. (S.)	Montgomery—Montgomery
Bartlett, H. S. (S.) Bass, H. W.	Gadsden—Etowah
Bates, I. C.	Dothan—Houston
Baumhauer, J. H.	Mobile—Mobile
Bates, I. C. Baumhauer, J. H. Bayles, Lewis E. Bayles, Louie E.	Anderson—Lauderdale
Bayles, Louie E	Anderson—Lauderdale
Bayne, R. D.	Selma—Dallas
Bayne, R. D. Bazar, P. S. Bazar, P. S. Bazar, P. S. Bazar	Montgomery-Montgomery
Bealle, J. S.	
Bearle, J. S. Beard, R. B.	Trov—Pike
Beasley, J. W.	Geneva—Geneva
Beatty, T. D. (S.)	Cullman—Cullman
Beck, C. K. (S.)	Troy—Pike
Beck, C. K. (S.) Beck, J. E. Becton, J. A.	Mobile—Mobile
Becton, J. A.	Birmingham—Jefferson
Beddow, W. H.	Birmingham—Jefferson
Bedsole, J. G.	Jackson—Clarke
Bedsole, J. G. Bell, J. M.	Mobile—Mobile
Bell, W. H.	Dozier—Crenshaw
Belue, J. O.	
Benkwith, K. B. (S.)	Montgomery—Montgomery
Bennett, C. R.	Eufaula—Barbour
Bennett, J. L.	E. Tallassee—Tallanoosa

Name	Town and County
Bennett, T. L.	
Bennett, T. L., Jr	Florence—Lauderdale
Benson, R. C. (S.)	Birmingham—Jefferson
Berrey, I. C.	
Berrey, R. R.	
Berry, R. A. Berry, W. T.	
	Montgomery—Montgomery
Bird, B. C.	_ Montgomery—Montgomery
Black, J. W.	Ensley—Jefferson
Blackshear, G. W.	Opelika—Lee
	Gadsden—Etowah
Blake, R. F. Blake, Theo. M	Haleyville—Winston Toulminville—Mobile
Blake, W. A. (S.)	Chatom—Washington
Blake, W. H., Jr.	Sheffield—Colbert
Blakeney, A. L.	Newtonville—Fayette Alabama City—Etowah
Blanton, Russell	Birmingham—Jefferson Citronelle—Mobile
Blewett, Means Block, W. H. (S.)	Hartselle—Morgan
Blount, W. J.	Millry—Washington
Blue, G. E.	Montgomery—Montgomery
Blue, Jas. H.	Bessemer—Jefferson
Blue, Jno. H.	Montgomery—Montgomery
Bobo, A. H.	Demopolis—Marengo
Bobo, J. E. (S.)	Gadsden—Etowah Gadsden—Etowah
Boggan, Jeff	Ragland—St. Clair
Boggs, L. K.	Birmingham—Jefferson
Bograd, Nathan (S.).	Montgomery—Montgomery
Bolton, Juanita =	Ashville—St. Clair
	Winfield—Marion
Bondurant, E. D.	Mobile—Mobile Roanoke—Randolph
	Rock Mills—Randolph
Booth, B. W.	
	. Elrod—Tuscaloosa
Boozer, D. T.	Sheffield—Colbert
Boozer, T. S	Montgomery—Montgomery
	Ensley—Jefferson
Boudreau, F. T. (S.) Boulware, T. M	Mobile—Mobile Birmingham—Jefferson
	_ Montgomery—Montgomery
Box, W. L	Sulligent, Rt. 2—Lamar
Boyd, F. H	Opelika—Lee
	Town Creek—Lawrence
Bradford, C. R.	Sylacauga—Talladega Birmingham—Jefferson
Bradford, D. C. (S.) = = =	
Bragg, J. C.	Decatur—Morgan
Branch, J. L. (S.)	Montgomery—Montgomery
Branham, B. S.	Birmingham—Jefferson
Brannon, R. M.	Birmingham—Jefferson Birmingham—Jefferson
Branscomb, Louise	Birmingham—Jefferson
Braswell W C	Fayette—Fayette Elba—Coffee Sycamore—Talladega
Brice. J. A.	Sycamore—Talladega
Bridges, Terrell	Montevallo—Shelby
Prindley T P	HartselleMorgan
Bristow, B. T.	Bessener—Jefferson Eufaula—Barbour
Britt, W. S., Jr. (S.)	Eufaula—Barbour
Britton, J. W. (S.)	Anniston—Calhoun Montgomery—Montgomery
Broach, N. L.	Pine Level—Montgomery
Brook, C. L.	Holt—Tuscaloosa
Brooks, J. O.	Hamilton—Marion
Brooks, O. J.	Huntsville—Madison
Broughton, W. E.	Perdue Hill—Monroe
Brown A I (S)	Stevenson—Jackson
Brown E. T	Mobile—Mobile Cleveland—Blount
Brown, H. M. (S.)	Birmingham—Jefferson
Brown, J. L.	Gadsden—Etowah
Brown, J. M	Gadsden—Etowah
Brown, J. R.	Hamilton—Marion

Name	Town and County
Brown, J. T. Brown, M. W.	Ragland—St. Clair
Brown, M. W.	Birmingham—Jefferson
Brownlee, L. G.	
Bruce, B. S.	Opelika—Lee
Brunson, E. T	
Bryan, J. L. Bryars, J. F.	Bay Minette—Baldwin
Buchanan, J. P.	Montgomery—Montgomery
Burch, J. T.	Hartselle—Morgan
Burdeshaw, H. B.	Dothan—Houston
Burdeshaw, S. L.	Headland—Henry
Buresch-Henke, H. Burke, R. P.	Montgomery—Montgomery Montgomery—Montgomery
Burkett, W. T.	Dothan—Houston
Burkhead, DeWitt	Opelika—Lee
Burleson, J. R.	Hamilton—Marion
Burns, C. R. D. (S.)	Alabama City—Etowah
Burns, J. D. (S.)	
Burns, W. A.	Alabama City—Etowah Birmingham—Jefferson
Burns. W. W.	Selma—Dallas
Burson, E. G.	Selma—Dallas Furman—Wilcox
Burwell, P. K.	Montgomery—Montgomery
Busby, S. S.	Hamilton—Marion New Brockton—Coffee
Bush, D. A.	New Brockton—Coffee
Bush, J. D., Jr.	University—Tuscaloosa Ft. Payne—DeKalb
	Bellamy—Sumter
Byffies, D. C. V.	Benamy Sumer
Caffey, B. F.	Choccolocco—Calhoun
Caine, V. H.	Orrville—Dallas
Caldwell H A	Huntsville—Madison Birmingham—Jefferson
Callaway, Eugene	Selma—Dallas
Callaway, R. R. (S.)	Selma—Dallas Birmingham—Jefferson
Callison, Caroline =	Grove Hill-Clarke
Cameron, J. E	Alexander City—Tallapoosa
	Faunsdale—Marengo
Campbell D J	Jasper—Walker Dozier, RFD—Covington
Campbell, J. A.	Dothan—Houston
Campbell, W. J.	Center—Cherokee Dothan—Houston
Cannady, N. B.	Dothan—Houston
Cannon, D. L.	Montgomery—Montgomery
Cannon, E. R Cantrell, W. T.	
Carmichael, J. L.	Alabama City—Etowah Birmingham—Jefferson
Carmichael, J. N.	Fairfield—Jefferson
	Fairfield—Jefferson
Carpenter, B. S.	Fairfield—Jefferson
Carpenter, J. L.	New Hope—Madison Gadsden—Etowah
Carraway, Anred Carraway, B. M.	Birmingham—Jefferson
Carraway, C. N.	Birmingham—Jefferson
Carter, H. R., Jr.	Birmingham—Jefferson Birmingham—Jefferson Repton—Conecuh
Carter, Melson B.	Birmingham—Jefferson
Carter, W. R.	Repton—Conecuh
Casey, A. E	Birmingham—Jefferson Henagar—DeKalb
Cashman, G. A.	Florence—Lauderdale
Cawthon, E. W.	Plateau—Mobile
Cermak, E. C.	Birmingham—Jefferson Dothan—Houston Birmingham—Jefferson
Chalker, B. C.	Dothan—Houston
Chandler, J. R. Chanman C H	Bessemer—Jefferson Andalusia—Covington Alexander City—Tallapoosa Goodwater—Coosa Birmingham—Jefferson
Chapman, J. A.	Alexander City—Tallapoosa
Chapman, J. A. R.	Goodwater—Coosa
Chapman, J. C.	Dillimigliani octicioni
Chapman, J. P.	Selma—Dallas
Chapman, L. W.	Jackson—Clarke
Chason O I	Jackson—Clarke Mobile—Mobile
	Birmingham—Jefferson
Chenault, E. M.	Decatur—Morgan
Chenault, F. L.	Decatur—Morgan

Name	Town and County	Name
Cheney, H. W Cherry, Alfred (S.)	Florence—Lauderdale	Crawford, J. M.
Cherry, Alfred (S.)	Birmingham—Jefferson	Crawford, R. D., J
Chilton, A. M. (S.)	Anniston—Calhoun	Crelly, H. C
Chipps, H. D. (S.)	Birmingham—Jefferson	Crook, W. R.
Chisolm, J. R.	Marion Junction—Dallas	Cross, E. H., Jr.
Chisolm, J. S.	Anniston—Calhoun Birmingham—Jefferson Marion Junction—Dallas Selma—Dallas Summerfield—Dallas	Crowder, J. W.
Christian I S Alberta	City (Mail Typeslesse) Types	Crutcher, J. S., J Culberson, A. E.
	City (Mail Tuscaloosa)—Tusca. Wadley—Randolph	Culpepper, R. A.
	Millport—Lamar	Cunningham, J.
Clapp. H. W. (S.)	Montgomery—Montgomery	Cunningham, W.
Clark, H. G. (S.)	Montgomery—Montgomery Clayton—Barbour	Curtis, R. C.
Clark, R. D		
Clarke, N. R. (S.)	Mobile—Mobile	Dabney, M. Y.
Clayton, E. C.	Leeds—Jefferson	Dailey, J. J.
Clayton, Price	Russellville—Franklin	Daly, E. W
Cleere, R. C.	Danville—Morgan	Daniel, W. A., Jr.
Clements, F. H.	Birmingham—Jefferson	Darby, H. A.
Clements, H. C.	Benton—Lowndes Tuscaloosa—Tuscaloosa	Darden, W. H. (S
Cleveland C H	Anniston—Calhoun	Davenport, L. O.
Cleveland, C. H.	Mobile—Mobile	Daves, J. G.
Cleveland Hunt (S)	Anniston—Calhoun	Davidson, A. W.
	Montgomery—Montgomery	Davidson, J. S. Davidson, J. W.
	Ensley—Jefferson	Davidson, M. T.
	Florence—Lauderdale	Davie, M. S.
	Birmingham—Jefferson	Davie, N. T.
Cobb, W. F.	Frisco City—Monroe	Davis, C. A
	Montgomery—Montgomery	Davis, C. S.
Cochran, J. P.	Birmingham—Jefferson	Davis, J. L.
Cochrane, R. H. (S.)	Tuscaloosa—Tuscaloosa	Davis, John Walte
Cocke, W. T.		Davis, John Wood
Coggin F B B	Mobile—Mobile	Davis, L. C.
Cohen N R (S)	Tuscaloosa—Tuscaloosa Demopolis—Marengo Mobile—Mobile Waverly—See Lee Montgomery—Montgomery	Davis, Luther, Jr.
Cole I. G	Ashland—Clay	Davis, S. D. (S.)
Coleman, G. C.	Fairfield—Jefferson	Dawson, J. R.
Coleman, L. S.	Fairfield—Jefferson Millport—Lamar	Day, Edward
Coleman, W. E.	Birmingham—Jefferson Troy—Pike	Dean, Leon
Colley, J. O., Jr.	Troy—Pike	Deaver, C. W.
Collier, J. P. (S.)	Tuscaloosa—Tuscaloosa	Deaver, W. T.
Collier, S. W	Birmingham—Jefferson Birmingham—Jeffeson Montgomery—Montgomery	Deaver, W. T. Dedman, J. E.
Collins, C. D. (S.)	Birmingham—Jeffeson	DeJanney, N. H.
Collins, H. C. (S.)	Montgomery—Montgomery	Denison, G. A.
Collins T. A	Birmingham—Jefferson	Denney, J. L.
Colvin C W	Bessemer—Jefferson Lincoln—Talladega	Dennis, J. W. (S
Comer F T (S)	Fufoula Parhour	Dennis, T. E.
Comer R T	Eufaula—Barbour Birmingham—Jefferson	Denson, F. H.
Compton. W. W.	Fairfield—Jefferson	Denton, Marvin Denton, N. C.
Connell, I. L. (S.)	Fairfield—Jefferson Grove Hill—Clarke	DeRamus, W. H.
Constantine, K. W.	Birmingham—Jefferson	DeRyke, G. R.
Conwell, H. E.	Birmingham—Jefferson	Dickey, E. W.
Conwill, G. B.	Tuscaloosa—Tuscaloosa	Dillon, J. F., 3rd.
Cooley, B. S.	Birmingham—Jefferson	Dilworth, T. E., J
Copeland, M. A.	Birmingham—Jefferson	Dinsmore, A. J.
Cornelius, L. B.	Cullman, Rt. 5—Cullman Birmingham—Jefferson	Dix, A. S.
Cornwell, R. A.	Birmingham—Jefferson	Dixon, D. P.
Corrington, D. D.	Tallassee—Elmore Birmingham—Jefferson	Dixon, R. E.
Coston P M (S)	Birmingham—Jefferson	Dodge, E. F.
Cothran R M	Birmingham—Jefferson	Dodson, J. H.
		Dodson, R. B. Doherty, D. H.
Cotter, W. A.	Ozark—Dale	D11 C T
Cotton, S. F.	Lexington—Lauderdale	Donald, C. J. Donald, D. C.
Couch, E. H.	Wetumpka—Elmore Ozark—Dale Lexington—Lauderdale Guntersville—Marshall	Donald, J. M. (S.)
Cowden, A. M.	Crichton—Mobile	Donald, P. Y.
Cowles, A. D	Crichton—Mobile Ramer—Montgomery	Donald, T. C
Cowles, T. D	. Troy—Pike	Donald, W. J.
Cowles, W. L.	Shawmut—Chambers	Donaldson, B. E.
Cox, D. D.	Sheffield—Colbert	Donnelly, C. A.
Coyle, D. J. (S.)	Birmingham—Jefferson	Dorough, J. L.
	Sylacauga—Talladega	Douglas, G. F
	Sylacauga—Talladega	Douglass, John
	Russellville—Franklin Columbiana—Shelby	Dowling I D
Orawioru, J. II.	Columbiana—Snelby	Dowling, J. D.

Name	Town and County
Crawford, J. M.	Arab—Marshall
Crawford, R. D., Jr.	Dothan—Houston
Crelly, H. C	Birmingham—Jefferson
Cross E. H. Jr.	Elba—Coffee Gadsden—Etowah
Crowder, J. W.	Belle Ellen—Bibb
Crutcher, J. S., Jr. (S.)	Athens—Limestone
Culberson, A. E.	Anniston—Calhoun Cullman—Cullman Birmingham—Jefferson
Culpepper, R. A.	Cullman—Cullman
Cunningham, J. A.	Birmingham—Jefferson
Cunningham, W. MCurtis, R. C.	Jasper—Walker Calera—Shelby
Curtis, It. C.	Carera—Sileiby
Dabney, M. Y.	Birmingham—Jefferson
	Tunnel Springs—Monroe
Daly, E. W.	Birmingham—Jefferson
Daniel, W. A., Jr.	Montgomery—Montgomery
Darby, H. A.	Athens—Limestone
Darden, W. H. (S.)	Birmingham—Jefferson Birmingham, Rt. 2—Jefferson
Davenport, L. O	Cullman—Cullman
	Bessemer—Jefferson
	Thomasville—Clarke
Davidson, J. W.	Brantley—Crenshaw
Davidson, M. T. (S.)	Brantley—Crenshaw Birmingham—Jefferson
Davie, M. S.	Dothan—Houston
	Anniston—Calhoun
Davis, C. A	
	Mobile—Mobile Gordo—Pickens
Davis, J. L	Montgomery—Montgomery
Davis, John Woodfin (S.)	Alabama City—Etowah
Davis, L. C.	Alabama City—Etowah Gordo—Pickens
Davis, Luther, Jr. (S.)	Tuscaloosa—Tuscaloosa
Davis, S. D. (S.)	Talladega—Talladega
	Montgomery—Montgomery
	Uniontown—Perry
Deaver C W	Ensley—Jefferson Birmingham—Jefferson
Deaver, W. T.	Adamsville, Rt. 2—Jefferson Betterton, Md.—See Jefferson
Dedman, J. E.	Betterton, Md.—See Jefferson
DeJanney, N. H.	Gadsden—Etowah
Denison, G. A.	Birmingham—Jefferson Alexander City—Tallapoosa
Denney, J. L.	Alexander City—Tallapoosa
Dennis, J. W. (S.)	Monrocyillo Monroc
Denson F H	Monroeville—Monroe Bessemer—Jefferson
Denton, Marvin	Oneonta—Blount
Denton, N. C.	Oneonta—Blount
DeRamus, W. H. (S.)	Oneonta—Blount Oneonta—Blount Selma—Dallas
DeRyke, G. R.	Tuscaloosa—Tuscaloosa
Dickey, E. W.	Hazel Green—Madison
Dillon, J. F., 3rd.	Montgomery—Montgomery
Dingmore A T	Huntsville—Madison Decatur—Morgan
Div A S	Mobile—See Lee
Dixon, D. P.	Talladega—Talladega
Dixon, R. E.	Alberta—Wilcox Montgomery—Montgomery
Dodge, E. F.	Montgomery—Montgomery
Dodson, J. H.	Mobile—Mobile
Dodson, R. B.	Cullman—Cullman
Doherty, D. H.	Selma—Dallas Birmingham—Jefferson
Donald, C. J.	Birmingham—Jefferson
Donald, J. M. (S.)	Birmingham—Jefferson Birmingham—Jefferson
Donald, P. Y.	Selma—Dallas
Donald, T. C.	Birmingham—Jefferson
Donald, W. J.	Montgomery—See Escambia
Donaldson, B. E.	Carbon Hill—Walker
Donnelly, C. A	Birmingham—Jefferson
Dorough, J. L.	Heflin—Cleburne Birmingham—Jefferson
Douglass John	Birmingham—Jefferson
	Birmingham—Jefferson Mobile—Mobile
	Birmingham—Jefferson

Birmingham—Jefferson

Name	Town and County	Name	Town and County
Drennen, Earle	Birmingham—Jefferson Enterprise—Coffee	Ford, W. F.	Gadsden, Rt. 2—Etowah Tuscaloosa—Tuscaloosa
DuBois, J. S.	Enterprise—Coffee	Forney, J. M. (S.)	Tuscaloosa—Tuscaloosa
Duncan, M. M.	Huntsville—Madison		Alexander City, Rt. 5—Tallapoosa
Duncan, W. W.	Huntsville—Madison Aliceville—Pickens Anniston—Calhoun		Birmingham—Jefferson
Dunn, J. E.	Anniston—Calhoun Listerhill—Colbert	Foster, J. O.	Luverne—Crenshaw
Dunn, M. C	Lindon Marango	Fowler, J. T.	Birmingham—See Houston
Dunning, G. J	Linden—Marengo Opelika, Rt. 2—Lee	Fox C A	Birmingham—Jefferson Birmingham—Jefferson
Du Puy A J	Athens—Limestone	Frank H W	Cadedon Ftowah
Durden, J. D.	Athens—Limestone Anniston—Calhoun	Franklin C M	Gadsden—Etowah Union Springs—Bullock
Durrett, E. B.	Bessemer—Jefferson	Franklin, H. G.	Thorsby—Chilton Baton Rouge—See Jefferson Lafayette—Chambers Mobile—Mobile
	Moulton—Lawrence	Frantz, W. E.	Baton Rouge—See Jefferson
•		Frazer, B. F.	Lafayette—Chambers
Eddins, W. W.	Monroeville-Monroe	Frazer, E. B. (S.)	Mobile—Mobile
Eddy Coninna	Contonville Pibb	Frederick, R. H	Phil Campbell—Franklin
Edge, O. N.	Troy—Pike Birmingham—See St. Clair Tyler, RFD—Dallas	Fudge, Walter	Lamison—Wilcox
Edmundson, H. C.	Birmingham—See St. Clair	Fussell, J. A.	New Brockton—Coffee
Edwards, D. B.	Tyler, RFD—Dallas		
Edwards, E. H., Jr.	Leeds—Jefferson Selma, Rt. 1—Dallas McCalla—Jefferson	Gaillard, S. S. (S.)	Mobile—Mobile
Edwards, G. T.	Selma, Rt. 1—Dallas	Gaillard, T. H.	Magnolia—Marcngo Birmingham—Jefferson
Edwards, J. E. H.	McCalla—Jefferson	Gaines, C. D.	Birmingham—Jefferson
Edwards, W. A.	Notasulga—Macon	Gaines, H. F.	Fairfield—Jefferson Mobile—Mobile Atmore— See Chambers
	Selma—Dallas	Gaines, M. T.	Mobile—Mobile
Eiland, J. D.	Verbena—Chilton	Gaines, W. D.	Atmore—See Chambers
Eiland, R. J.	Clanton—Chilton	Gallaway, F. W	Florala—Covington
Elgin, C. E.	Clanton—Chilton Praco—Jefferson Birmingham—Jefferson	Gamble, W. M.	Wetumpka—Elmore
Elkourie, H. A.	Birmingham—Jefferson	Garber, J. R.	Birmingham—Jefferson
		Garlington, R. B.	Brilliant—Marion
Elliott, D. F	Moundville—Hale Dothan—Houston	Garlington, W. H.	Brilliant—Marion Birmingham—Jefferson Rt. 2, Bessemer—Jefferson
Filis I C	Florence—Lauderdale	Garmon, C. N.	Ri. 2, Bessemer—Jefferson
Elrod R F	Ft. Payne—DeKalb	Cary Loren Ir	Birmingham—JeffersonTuscumbia—Colbert
Embry, J. C.	Vincent—Shelby	Gary R E (S)	Tuscumbia—Colbert
Emens, E. R.	. Decatur—Morgan	Gav. A. J.	Roanoke—Randolph
Emerson, J. F.	Vincent—Shelby Decatur—Morgan Spring Garden—Cherokee	Gay, C. P.	Roanoke—Randolph Geneva—Geneva
England, F. T. (S.)	Mobile—Mobile	Gay, J. S	Ashland—Clay
England, J. T.	Mobile—Mobile	Gay, N. S.	Whistler—Mobile
Eskew, M. H.	Uniontown—Perry	Gay, O. F. (S.).	Greenville—Butler
Evans, K. P	Boothton—Shelby Andalusia—Covington	Gehrken, H. S. (S.)	Greenville—Butler Birmingham—Jefferson
Evers, Ray	Andalusia—Covington	Gelperin, Jules (S.)	Birmingham—Jefferson
Eversole, W. C.	Vincent—Shelby	Gibson, E. L.	Enterprise—Coffee
			Sylacauga—Talladega
Falletta, P. T.	Birmingham—Jefferson	Gill, D. G.	Montgomery—Montgomery
Fargason, J. F.	E. Tallassee—Tallapoosa	Gillespie, J. P., Jr. (S.)	Gadsden—Etowah
Farish, C. G. (S.)	Moulton—Lawrence	Gillespy, R. R. (S.)	Birmingham—Jefferson
Farmer, H. R.	Fairfield—Jefferson Birmingham—Jefferson Montgomery—Montgomery	Gipson, A. C.	Gadsden—Etowah
Farrar, W. C.	Mantgamany Mantgamany	Glodner J. C.	Birmingham—Jefferson Jasper—Walker
Faucett DoWitt	Gadsden—Etowah	Classow R D	Fairfield—Jefferson
Faucett G I	Gadsden—Etowah		Adamsville—Jefferson
Faulk W M	Tuscaloosa—Tuscaloosa	Glasgow T. J.	Russellville—Franklin
Ferguson, Burr	Tuscaloosa—Tuscaloosa Birmingham—Jefferson	Glaze, A. L., Jr.	Russellville—Franklin Birmingham—Jefferson
Ferry, J. A.	Birmingham—Jefferson	Glazer, Harry (S.)	
Feulner, C. D.		Godard, C. G.	Fairhope—Baldwin
Finlay, A. G.		Godbold, J. C.	Whatley—Clarke
Finley, W. A.	Cherokee—Colbert	Godbold, P. E.	Pine Hill—Wilcox
Finney, J. O. (S.)	. Gadsden—Etowah	Godsey, Wash	Haleyville—Winston
Fisher, C. J.		Goff, W. H.	Rockford—Coosa Clanton—Chilton
Fisher, G. E.	Birmingham—Jefferson	Golden, W. C.	Clanton—Chilton
Fitts, Alston	Tuscaloosa—Tuscaloosa Hodges—Franklin		Birmingham—Jefferson
Flippo, L. N.	Hodges—Franklin		Prichard—Mobile
Floyd, H. T.	Auburn—Lee		Birmingham—Jefferson Prattville—Autauga
Floyd S I	Ft. Payne—DeKalb Phoenix City—Russell		Birmingham—Jefferson
•	Abbeville—Henry		Tuscaloosa—Tuscaloosa
	Jack—Coffee		Birmingham—Jefferson
Fonde, E. C. (S.)	Mobile—Mobile	Gordon, S. A.	Marion—Perry
Fonde, G. H.	Mobile—Mobile	Gould, K. N.	Wilsonville—Shelby
Fonde, W. G. (S.)	Chickasaw—Mobile	Gragg, V. J.	Clanton—Chilton
Fonville, W. D.	Birmingham—Jefferson		Opelika—Lee
Forcheimer, H. H.			Mobile—See Escambia
Ford, C. E.	Roanoke—Randolph		Ashford—Houston
	Birmingham—Jefferson		Goshen—Pike
Ford, H. G. (S.)	Gadsden—Etowah		Gadsden—Etowah
Ford, J. W. (S.)	Bradleytown—Crenshaw Gadsden, Rt. 2—Etowah		University—Tuscaloosa
Toru, v. (v. (b.)	Gausten, Itt. 2—Etowan	Graves, Studt	

Name	Town and County
Gray, E. W.	Florence—Lauderdale
Gray, H. E	Anniston—Calhoun
Gray, H. W.	Crichton—Mobile
Grayson, A. T.	New Market—Madison
Grayson, R. J. (S.)	Selma—Dallas
Green, A. H. (S.)	Birmingham—Jefferson
Green, Elbert Paul	Birmingham—Jefferson
Green, Elbert Pierce	Jacksonville—Calhoun
Green, R. C.	Birmingham—Jefferson
Greene, G. B. (S.)	Birmingham—Jefferson
Greer, H. D	Decatur—Morgan
Gresham, G. L.	Speigner—Elmore
Gresham, W. A.	Russellville—Franklin
Griffin, G. W. (S.)	Birmingham—Jefferson
Griffin, I. H.	. Moundville—Hale
Griffith, H. A.	Sheffield—Colbert
Grimes, O. R	Gadsden—Etowah
Gross, C. M.	Cullman, Rt. 3—Cullman
Gross, Esther	Anniston—Calhoun
Gross, G. D. (S.)	Anniston—Calhoun
Grote, C. A	Huntsville—Madison
Guest, R. J., Jr.	. Ft. Payne—DeKalb
Guice, C. L.	. Gadsden—Etowah
Guin, J. C., Sr.	Moore's Bridge—Tuscaloosa
Guin, J. C., Jr. (S.)	Moore's Bridge—Tuscaloosa
Gully, V. S. (S.)	Butler—Choctaw
Gunter, W. A., 3rd (S.)	Montgomery—Montgomery
Guthrie, E. M.	Thompson—Bullock
Guyton, T. M.	Decatur—Morgan
Gwin, P. E.	Sumiton—Walker
Haas, T. D.	Mobile—Mobile
Habeeb, Alfred	Fairfield—Jefferson
Hagood, D. S.	Montgomery—Montgomery
Hagood, J. W.	Evergreen—Conecuh
Hagood, M. H.	Brewton—Escambia
Hagood, R. B	Lowndesboro—Lowndes
Haigler, J. R.	Montgomery—Montgomery

Haas, T. D.	Mobile—Mobile
Habeeb, Alfred	Fairfield—Jefferson
Hagood, D. S.	Montgomery-Montgomery
Hagood, J. W.	Evergreen—Conecuh
Hagood, M. H.	Brewton—Escambia
Hagood, R. B	Lowndesboro—Lowndes
Haigler, J. R.	Montgomery-Montgomery
Hail, R. A.	Robertsdale—Baldwin
Hairston, W. G.	Birmingham—Jefferson
Haisten, D. C.	Dothan—Houston
Hale, R. E.	Bellamy—Sumter
Hale, S. F.	Mobile—Mobile
Hall, F. M.	Athens—Limestone
Hall, G. W	Northport—Tuscaloosa
Hall, S. P. Jr.	Scottsboro—Jackson
Haller, E. N.	Ft. Payne—DeKalb
Hamil, J. Y.	Decatur—Morgan
Hamilton, E. H. (S.)	University—Tuscaloosa
Hamilton, G. C.	. Piedmont—Calhoun
Hamilton, S. G.	Tuscaloosa—Tuscaloosa
Hamner, H. T	Camp Hill—Tallapoosa
Hamner, L. H.	Dadeville—Tallapoosa
Hamner, S. C	Andalusia—Covington
Hamrick, R. A. (S.)	Birmingham—Jefferson
Hamrick, R. H.	Birmingham—Jefferson
Hanby, E. K.	Attalla—Etowah
Hancock, M. W.	Arkadelphia—Cullman
Hankins, G. M. (S.)	Fairfield—Jefferson
Hanna, R. C.	Marion—Perry
Hannon, W. C.	. Mobile—Mobile
Hansard, W. S.	Henagar, RFD—DeKalb
Hardin, S. T.	Tuscaloosa—Tuscaloosa
Hardy, W. B	Birmingham—Jefferson
Hare, R. N.	. Jasper—Walker
Hargis, A. S., Jr. (S.)	Birmingham—Jefferson
Hargis, E. H.	Birmingham—Jefferson
Harmon, J. S	
Harper, R. E.	
Harper, W. F.	Selma—Dallas
Harris, A. B.	Birmingham—Jefferson
Harris, Charlton	Sayreton—Jefferson
Harris, Edward A.	Fairfield—Jefferson
Harris, Esau A.	Bessemer—Jefferson
Harris, F. W.	Birmingham—Jefferson
Harris, H. A.	Birmingham—Jefferson

Harris, H. P. Harris, Seale Harris, Seale, Jr. (S.) Harrison, K. W. Harrison, W. G. Huntsville-Madison Brinigham—Jefferson Lollman Defferson Lollman—Jefferson Lollman—Jefferson Birmingham—Jefferson Lollman—Jefferson Birmingham—Jefferson Lollman—Jefferson Birmingham—Jefferson Mobile-Mobile Hein, Wyatt Hingham—Jefferson Lollman—Jefferson Lollman—Jefferson Birmingham—Jefferson Lollman—Jefferson Lollman—Cullman Coatopa, RFD—Sumter Cottonwood—Houston Pratt City—Jefferson Carrollton—Pickens Montgomery—Montgomery Mobile—Mobile Hill, R. C. Hills, D. E. Hill, R. C. Hills, D. E. Haleyville—Winston Mobile—Mobile Mobile—Mobile Mobile—Mobile Holley, J. F. Holday, J. J., Jr. (S.) Holler, C. A. F. (S.) Hollis, M. C. Holman, N. W. (S.) Hollis, M. C. Huntsville—Marison Hobile—Mobile Hollish, D. Horrison, W. C. (S.) Hollish, W. C. Hollish, W.
Harris, Seale, Jr. (S.) Harrison, K. W. Harrison, W. G. Harrison, W. C. Harrison, W. G. Hatchett, W. C. Halchett, W. C. Hays, J. P. Clanton—Chilton Haysood, J. K. Holion Springs—Bullock Birmingham—Jefferson Cullman—Cullman Headocok, J. D. Herin, Wyatt Heiter, W. L. Hoholie, Mobile—Mobile Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H. Henderson, H. H. Henderix, C. V. Hendrix, R. Walker (S.) Herrin, C. E. Hill, H. W. Hill, J. F. Hill, J. F. Hill, J. F. Hill, J. F. Hill, J. H. Hill, R. C. Hill, Robert Lee Halevyille—Winston Hodges, E. K. Hodges, E. Julian Hodges, E. K. Birmingham—Jefferson Montgomery—Montgomery Montgomery Montgomery Montgomery—Montgomery Montgomery Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Mo
Harrison, K. W. Harrison, W. G. Hartung, C. F. Hartung, C. F. Hatchett, W. C. Haun, C. A. Hayes, C. P. Hayes, J. P. Headh, M. J. Hedrer, W. L. Henderson, A. D. (S.) Henderson, H. H. Henderson, H. H. Henderson, H. H. Herrin, C. E. Hill, A. W. Hill, J. F. Hill, L. L. Hill, Robert Lee Hill, Robert Lee Hill, Nobert Lee Hill, S. Hill, J. F. Hodges, E. Julian Hodges, Rayford Hodges, Rayford Hodgen, G. A. Hodges, Rayford Hodgen, R. F. Holding, B. F. Holding, B. F. Holley, J. C. Holley—Balder Huntsville—Madison Brindingham—Jefferson Brindgeport—Jackson Brindgeport—Jackson Brindigham—Jefferson Brindgeport—Jackson Brindigham—Jefferson Brindgeport—Jackson Brindigham—Jefferson Brindigham—Jefferson Brindigham—Jefferson Brindigham—Jefferson Brindigham—Jefferson Carrollton—Pickens Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Birmingham—Jefferson Montgomery—Montgomery Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Montgomery—
Hartung, C. F. Harwood, R. E. Harwood, R. E. Hatchett, W. C. Haun, C. A. Hayes, J. P. Hayes, J. P. Heach, M. J. Heath, M. J. Heiter, W. L. Henderson, A. D. (S.) Henderson, H. H., Jr. Henderson, H. H., Jr. Hendrix, C. V. Hendrix, C. V. Herrin, C. E. Herrin, C. E. Hill, J. H. Hill, J. H. Hill, J. H. Hill, J. H. Hill, R. C. Hill, R. S. Hill, J. F. Hill, R. S. Hill, J. L. Hill, J. L. Hill, R. S. Hill, J. L. Hill, Robert Lee Hill, Robert Lee Hill, Robert Lee Hill, Robert Lee Hill, Sha, J. E. Hodges, E. Julian Hodges, E. Julian Hodges, E. Julian Hodges, E. Julian Hodges, Rayford Hodges, Rayford Hodges, Rayford Hodges, Rayford Hodges, Rayford Hodgen, A. F. Holled, A. F. Ho
Hartung, C. F. Harwood, R. E. Hatchett, W. C. Hatchett, W. C. Hatchett, W. C. Hautsville—Madison Haun, C. A. Ensley—Jefferson Hayes, C. P. Elba—Coffee Hayes, J. P. Clanton—Chilton Haygood, J. K. Union Springs—Bullock Hays, J. H. Birmingham—Jefferson Cullman—Cullman Heacock, J. D. Heath, M. J. Heflin, Wyatt Henderson, A. D. (S.) Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H. Henderson, H. H., Jr. Hendrix, R. Walker (S.) Herrin, C. E. Cullman—Cullman Hester, F. L. Coatopa, RFD—Sumiter Hicks, D. M. Hightower (R. G. (S.) Hill, J. F. Hill, J. H. Hill, J. H. Hill, L. L. Jr. (S.) Hill, Robert Lee Hill, Robert Lee Hill, Robert Leroy Hill, R. S. Hodges, E. Julian Hodges, E. Julian Hodges, Rayford Hogan, G. A. Hogan, M. D. Hogan, R. E. Holley, J. F. Holley, A. F. Holley, J. F. Holley, J. C. Mobile—Mobile Holman, N. W. (S.) Hory-Baldwin Holman, N. W. (S.) Holley, J. C. Mobile—Mobile Hollis, M. C. Hory-Baldwin Hollin, N. W. (S.) Holley, J. F. Lockhart—Covington Hollin, N. W. (S.) Holley, J. C. Mobile—Mobile Hollis, M. C. Holloman, N. W. (S.) Holley, J. F. Lockhart—Covington Hollin, N. W. (S.) Holley, J. C. Mobile—Mobile Hollis, M. C. Holloman, N. W. (S.) Holley, J. C. Holley—Hollide Holley, J. F. Lockhart—Covington Hollin, N. W. (S.) Holley—Hobile Holley, J. F. Lockhart—Covington Hollin, M. W. (S.) Holley, J. F. Lockhart—Covington Hollin, M. W. (S.) Holley—Mobile—Mobile Hollines, W. C. (S.) Foley—Baldwin Hollines, W. C. (S.) Foley—Baldwin Hollines, W. C. (S.) Foley—Baldwin Hollines, W. C. Hurtiville—Madison Hollines, W. C. (S.) Foley—Baldwin Hollines, W. C. (S.) Foley—Baldwin Hollines, W. C. (S.) Foley—Baldwin
Harwood, R. E. Hatchett, W. C. Hatchett, W. C. Haun, C. A. Ensley—Jefferson Hayes, C. P. Haygood, J. K. Hollin, Wyatt Heacock, J. D. Heath, M. J. Heflin, Wyatt Heiter, W. L. Heflin, Wyatt Heiter, W. L. Henderson, A. D. (S.) Heethenderson, H. H. Handerson, H. H. Handerson, H. H. Handerson, H. H. Henderson, H. H. Hendrix, R. Walker (S.) Herrin, C. E. Hill, J. H. Hill, R. C. Hill, Robert Leroy Hill, R. C. Hillson, Lewis Hillouse, J. L. Hilson, Lewis Hillouse, J. A. Hillson, Lewis Hodges, E. Julian Holgan, M. D. Hogan, M. D. Hogan, M. D. Hogan, M. D. Hogan, M. D. Holding, B. F. Holler, C. A. F. (S.) Holler, C. A. F. (S.) Filey—Dekalb Holley, A. F. Holley, J. F. Lockhart—Covington Holliman, J. D. Huntsville—Madison Holliman, H. L. Ozark—Dale Hollmen, W. C. (S.) Foley—Baldwin Hollin, N. W. (S.) Holler, C. S. Foley—Baldwin Holling, M. C. Hollin
Hatchett, W. C. Haun, C. A. Haunsville—Madison Hayes, C. P. Haygood, J. K. Hays, J. H. Haysood, J. K. Haysoo
Haun, C. A. Hayes, C. P. Hayes, J. P. Hays, J. H. Haygood, J. K. Hays, J. H. Hays, Luther Heacock, J. D. Heath, M. J. Heflin, Wyatt Heiter, W. L. Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H., Jr. Hendrix, R. Walker (S.) Herrin, C. E. Herrin, C. E. Hester, F. L. Hoster, F. L. Hill, J. H. Hill, L. L. Hill, J. H. Hill, L. L., Jr. (S.) Hill, R. S. Hill, V. H. (S.) Hill, V. H. (S.) Hill, V. H. (S.) Hill, N. H. Hill, D. H. Hillson, Lewis Hill, J. E. Hodges, E. Julian Hogan, E. P. Holding, B. F. Holding, J. J., Jr. (S.) Holler, C. A. F. (S.) Holley, J. F. Hollin, M. C. Hollman, J. D. Hollin, M. C. Hollman, J. D. Holley, J. F. Holler, C. A. F. (S.) Holler, C. A. F. (S.) Holler, C. A. F. (S.) Holler, M. C. Hollman, J. D. Holler, M. C. Hollman, J. D. Holler, M. C. Hollman, M. W. (S.) Holler, C. A. F. (S.) Holler, M. C. Hollman, M. W. (S.) Holler, C. A. F. (S.) Holler, C. A. F. (S.) Holler, M. C. Hollman, M. W. (S.) Holler, M. C. Hollman, M. W. (S.) Holler, C. S. Holler, C. Holler, C. S. Holler, C. S. Holler, C. S. Holler, C. S. Holler,
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Haygood, J. K. Hays, J. H. Hays, J. Luther Heacock, J. D. Heath, M. J. Heflin, Wyatt Heiter, W. L. Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H. Hendrix, C. V. Herrin, C. E. Hester, F. L. Hill, J. F. Hill, J. F. Hill, J. F. Hill, J. F. Hill, L. L. Hill, L. L. Hill, L. L. Hill, L. L. Hill, Robert Lee Hill, Robert Leoy Hill, R. S. Hillows, J. A. Hinton, L. H. Hillson, Lewis Hodges, E. Julian Hodges, Rayford Hodges, E. Sulian Hogan, M. D. Hogan, R. E. Holley, A. F. Hollen, C. A. F. (S.) Holler, C. A. F. (S.) Holler, C. A. F. (S.) Hollen, D. Holliman, J. D. Holliman, J. D. Holliman, J. D. Holliman, J. D. Holloman, M. W. (S.) Hollen, W. C. (S.) Hollen, Watter Birmingham—Jefferson Montgomery Hollen,
Hays, Luther Heacock, J. D. Heath, M. J. Heflin, Wyatt Heiter, W. L. Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H., Henderson, E. Henderson, H. H., Henderson, E. Henderson, H. H., Hendrix, R. Walker (S.) Herrin, C. E. Heiter, W. L. Hendrix, R. Walker (S.) Herrin, C. E. Housen, G. G. (S.) Herrin, C. E. Hill, H. W. Hill, H. W. Hontgomery—Montgomery Hontgomery—Montgomery Hontgomery—Montgomery Hontgomery—Montgomery Hontgomery—Montgomery Hontgomery—Montgomery Hontgomery—Montgomery Hollil, R. S. Hontgomery—Montgomery Hollil, R. S. Hontgomery—Montgomery Hollil, R. S. Holle, V. H. (S.) Hillhouse, J. L. Hineville—Winston Hill, V. H. (S.) Hillhouse, J. L. Hineville—Clay Hinton, L. H. Hirsh, J. E. Holman, J. E. Holladay, J. J., Jr. (S.) Holler, C. A. F. (S.) Hollin, M. C. Hollinan, J. D. Huntsville—Madison Hollis, L. W. Hollolis, M. C. Holloman, W. W. (S.) Holle—Mobile—Mobile Hollis, M. C. Holloman, W. W. (S.) Holle—Mobile Hollis, M. C. Holloman, W. W. (S.) Holloman, M. W. (S.) Holloman
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Heath, M. J. Heffin, Wyatt Heffin, Wyatt Henderson, A. D. (S.) Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H. Henderson, H. H. Hendrix, C. V. Hendrix, C. E. Hendrix, R. Walker (S.) Hersin, C. E. Hester, F. L. Heister, F. L. Hill, J. F. Hill, J. F. Hill, J. H. Hill, J. H. Hill, Robert Lee Hill, Robert Lee Hill, V. H. (S.) Hill, V. H. (S.) Hill, J. L. Hills, Mobile—Mobile Hills, Mobile—Mobile Hills, Mobile—Mobile Hills, Mobile—Mobile Hills, Mobile—Mobile Hills, Mobile—Mobile Hills, M
Heflin, Wyatt Heiter, W. L. Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H. Henderson, H. H. Hendrix, C. V. Hendrix, C. E. Herrin, C. E. Heiter, W. L. Hendrix, Greenville—Butler Henderson, H. H. Hendrix, C. V. Herrin, C. E. Herrin, C. E. Herrin, C. E. Hill, J. M. Hill, J. F. Hill, J. F. Hill, J. H. Hill, L. L. Hill, L. L. Hill, L. L. Hill, Robert Lee Hill, Robert Lee Hill, Robert Leroy Hill, J. L. Hill, N. H. (S.) Hillson, Lewis Hillson, Lewis Hodges, E. Julian Hodges, Rayford Hodgson, P. M. Hogan, G. A. Hogan, G. A. Holler, C. A. F. (S.) Holler, C. A. F. Holley, J. F. Holler, C. A. F. Holling, M. C. Hollman, J. D. Holling, M. C. Hollman, H. L. Hollman, H. L. Hollman, H. L. Holler, C. C. Hollman, W. Mobile—Mobile Hollman, M. C. Hollone, W. C. (S.) Hoble—Mobile Hollman, M. C. Hollman, M. C. Hollman, M. C. Hollone, W. C. (S.) Holler, C. A. F. Holler, C. A. F. Holler, C. A. F. Hollman, M. C. Hollone, W. C. (S.) Hoble—Mobile Holler, Mobile—Mobile Hollman, M. W. (S.) Holler, Mobile—Mobile Hollman, Mobile—Mobile Holl
Heiter, W. L. Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H. Henderson, H. H. Hendrix, C. V. Hendrix, R. Walker (S.) Herrin, C. E. Hester, F. L. Hill, J. F. Hill, J. F. Hill, L. L. Hill, L. L. Hill, Robert Lee Hill, Robert Lee Hill, Robert Lee Hill, Robert Leo Hill, V. H. (S.) Hill, J. E. Hillson, Lewis Hodges, E. Julian Hodges, Rayford Hodgan, M. D. Hogan, G. A. Holler, C. A. F. (S.) Holler, C. A. F. (S.) Holler, C. A. F. (S.) Hollen, J. F. Holladay, J. J., Jr. (S.) Hollen, J. F. Holladay, J. F
Henderson, A. D. (S.) Henderson, E. A. Henderson, H. H. Henderson, H. H. Henderson, H. H. Hendrix, C. V. Hendrix, R. Walker (S.) Herin, C. E. Hester, F. L. Hicks, D. M. Hill, H. W. Hill, J. F. Hill, J. H. Hill, R. C. Hill, Robert Lee Hill, Robert Lee Hill, V. H. (S.) Hillhouse, J. L. Hillson, Lewis Hillson, Lewis Hinton, L. H. Hirsh, J. E. Hodges, E. Julian Hodges, E. Julian Hogan, G. A. Hogan, M. D. Hogan, M. D. Hogan, M. D. Holler, C. A. F. (S.) Holler, C. A. F. (S.) Hendrix, C. V. Oneonta—Blount Fairfield—Jefferson Coatopa, RFD—Sumter Co
Henderson, E. A
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Hester, F. L. Hicks, D. M. Hightower (R. G. (S.) Hill, J. F. Hill, J. F. Hill, J. H. Hill, L. L. Hill, R. C. Hill, Robert Lee Hill, Robert Leroy Hill, V. H. (S.) Hill, J. L. Hill, J. L. Hill, J. L. Hill, Robert Lee Hill, Robert Leroy Hill, R. S. Hill, J. L. Hill, Robert Lend Hill, R. S. Hill, J. L. Hill, Robert Leroy Hill, R. S. Hill, Robert Lend Hollin, Robert Lend Hollin, Robert Lend Hollin, Robert Lend Holle, J. E. Haleyville—Montgomery Montgomery—Montgomery Montgomery—Montgomery Hondsine—Mobile Holle, Robert Lend Holle, Robert Lend Holle, A. F. Holding, B. F. Holding, B. F. Holley, A. F. Holley, J. F. Holley, J. F. Lockhart—Covington Hondsine, M. C. Hollman, N. W. (S.) Hope, J. C. Hobile—Mobile Hobile Holpe, J. C. Hobile—Mobile Hobile Hobile—Mobile Hobile Hobile—Mobile Hobile—Mobile Hobile—Mobile Hobile—Mobile
Hicks, D. M. Hightower (R. G. (S.) Hill, H. W. Hill, J. F. Hill, J. H. Hill, L. L. Hill, Robert Lee Hill, Robert Lee Hill, V. H. (S.) Hill, J. L. Hillouse, J. L. Hillouse, J. A. Hilt, J. E. Hodge, E. K. Hodges, E. Julian Hogan, E. P. Hogan, M. D. Hogan, M. D. Hogan, M. D. Holley, A. F. Holley, J. F. Hollenan, N. W. (S.) Hill, H. W. Montgomery—Montgomery Montgomery—Montgomery Hontgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Holpe, J. F. Birmingham—Jefferson Montgomery—Montgomery Birmingham—Jefferson Montgomery—Montgomery Birmingham—Jefferson Montgomery—Montgomery Montgomery—Mon
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Hill, H. W. Carrollton—Pickens Hill, J. F. Montgomery—Montgomery Hill, J. H. Talladega—Talladega Hill, L. L. Montgomery—Montgomery Hill, L. L., Jr. (S.) Montgomery—Montgomery Hill, R. C. York—Sumter Hill, Robert Lee Haleyville—Winston Hill, R. S. Montgomery—Montgomery Winfield—Marion Hill, R. S. Montgomery—Montgomery Hill, V. H. (S.) Montgomery—Montgomery Montgomery Hill, V. H. (S.) Montgomery—Montgomery Montgomery Mondgon, L. H. Mobile—Mobile Birmingham—Jefferson Hodges, E. Julian Scottsboro—Jackson Hodges, E. Julian Scottsboro—Jackson Scottsboro—Jackson Hodges, E. P. Birmingham—Jefferson Birmingham—Jefferson Hogan, M. D. Birmingham—Jefferson Birmingham—Jefferson Hogan, M. D. Birmingham—Jefferson Birmingham—Jefferson Hogan, M. D. Birmingham—Jefferson Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery
Hill, J. F. Hill, J. H. Hill, J. H. Hill, L. L. Hill, L. L. Hill, R. C. Hill, R. C. Hill, Robert Lee Hill, Robert Leroy Hill, V. H. (S.) Hillhouse, J. L. Hilson, Lewis Hilt, J. L. Hirsh, J. E. Hodges, E. Julian Hodges, Rayford Hogan, G. A. Hogan, G. A. Hogan, M. D. Hogan, R. E. Holley, A. F. Holley, A. F. Holley, J. F. Holley, J. F. Holley, J. F. Holley, A. F. Holley, J. F. Holley, J. F. Hollen, Montgomery—Montgomery Mobile—Mobile Montgomery—Montgomery Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montg
Hill, J. H. Talladega—Talladega Hill, L. L. Montgomery—Montgomery Hill, R. C. York—Sumter Hill, Robert Lee Haleyville—Winston Hill, Robert Leroy Winfield—Marion Hill, R. S. Montgomery—Montgomery Hill, V. H. (S.) Mobile—Mobile Hillhouse, J. L. Birmingham—Jefferson Hilt, J. L. Lineville—Clay Hines, J. A. Siluria—Shelby Hinton, L. H. Mobile—Mobile Hirsh, J. E. Birmingham—Jefferson Hodge, E. K. Fairfax—Chambers Hodges, E. Julian Scottsboro—Jackson Hodgson, P. M. Stockton—Baldwin Hogan, G. A. Birmingham—Jefferson Hogan, M. D. Birmingham—Jefferson Hogan, M. D. Birmingham—Jefferson Holding, B. F. Montgomery—Montgomery Holladay, J. J., Jr. (S.) Holley, A. F. Brewton—Escambia Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Holman, H. L. Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Montgomery—Mobile Montgomery—Montgomery Montgomery Mon
Hill, L. L., Jr. (S.) Hill, R. C. Hill, Robert Lee Hill, Robert Lee Hill, Robert Leroy Hill, R. S. Hill, V. H. (S.) Hill, J. L. Hirsh, J. E. Hodge, E. K. Hodges, E. Julian Hogan, E. P. Hogan, J. F. Hogan, M. D. Hogan, M. D. Hogan, R. E. Holladay, J. J., Jr. (S.) Holley, A. F. Holley, A. F. Holley, J. F. Hollis, M. C. Holman, H. L. Holoman, H. L. Holomes, W. C. (S.) Hoge, J. C. Montgomery—Montgomery Mobile—Mobile Haleyville—Marion Montgomery—Montgomery Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Birmingham—Jefferson Scottsboro—Jackson Scottsboro—Ja
Hill, L. L., Jr. (S.) Hill, R. C. York—Sumter Hill, Robert Lee Hill, Robert Leroy Hill, R. S. Montgomery—Montgomery Hill, V. H. (S.) Hillhouse, J. L. Birmingham—Jefferson Holder, J. E. Birmingham—Jefferson Hodge, E. K. Fairfax—Chambers Hodges, E. Julian Hogan, E. P. Hogan, G. A. Hogan, M. D. Hogan, M. D. Hogan, R. E. Holler, C. A. F. (S.) Holley, A. F. Holley, J. F. Hollis, M. C. Holman, H. L. Holpen, J. C. Montgomery—Montgomery Winfield—Marion Montgomery—Montgomery Mohile—Mobile Haleyville—Vinston Winfield—Marion Mohile—Mobile Haleyville—Winston Winfield—Marion Mohile—Mobile Holley, A. F. Holled—Marion Hollis, M. C. Ozark—Dale Holne, J. C. Winfield—Mobile Holled—Mobile Haleyville—Winston Mobile—Mobile Haleyville—Winston Haleyville—Winston Haleyville—Winston Haleyville—Mobile
Hill, R. C. York—Sumter Hill, Robert Lee Haleyville—Winston Mill, Robert Leroy Winfield—Marion Hill, R. S. Montgomery—Montgomery Hill, V. H. (S.) Montgomery—Montgomery Montgomery
Hill, Robert Lee Hill, Robert Leroy Hill, Robert Leroy Hill, R. S. Hontgomery—Montgomery Hill, V. H. (S.) Hillhouse, J. L. Hodge, L. Hodge, L. Hodge, E. Hodge, E. Holdey, E. Holdes, E. Holdes, E. Holder, C. A. F. Holley, J. F. Holley, M. C. Holman, H. L. Holman, N. W. (S.) Hope, J. C. Holmes, W. C. (S.) Hobite—Mobile Holbie—Mobile Holbie—Mobile Winfield—Mobile Holbie—Mobile Winfield—Mobile Winfield—Mobile Winfield—Mobile Winfield—Mobile Winfield—Mobile Winfield—Mobile Winfield—Mobile Winfield—Mobile Winfield—Marion Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hobile—Mobile
Hill, R. S. Hill, V. H. (S.) Hillhouse, J. L. Hillhouse, J. L. Hillhouse, J. L. Hillhouse, J. L. Hilt, J. L. Lineville—Clay Hines, J. A. Hinton, L. H. Hodge, E. K. Hodges, E. Julian Hogan, E. P. Hogan, G. A. Hogan, M. D. Hogan, M. D. Hogan, R. E. Hollady, J. J., Jr. (S.) Holley, A. F. Holley, A. F. Holley, A. F. Hollis, M. C. Holman, H. L. Hillhouse, J. L. Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Boonton, N. J.—See Birmingham—Jefferson Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Huntsville—Madison Huntsville—Madison Huntsville—Madison Huntsville—Madison Huntsville—Madison Huntsville—Madison Hollis, M. C. Winfield—Marion Ozark—Dale Holman, N. W. (S.) Foley—Baldwin Hope, J. C.
Hill, V. H. (S.) Hillhouse, J. L. Birmingham—Jefferson Hilt, J. L. Lineville—Clay Hines, J. A. Siluria—Shelby Hinton, L. H. Hirsh, J. E. Hodge, E. K. Hodges, E. Julian Hogan, E. P. Hogan, G. A. Hogan, J. F. Hogan, M. D. Hogan, R. E. Holler, C. A. F. Holley, A. F. Holley, A. F. Holley, J. F. Hollis, M. C. Holman, H. L. Hirsh, J. E. Birmingham—Jefferson Boonton, N. J.—See Jefferson Montgomery—Montgomery Montgomery—Montgomery Huntsville—Madison Hollis, L. W. Mobile—Mobile Holman, N. W. (S.) Gark—Dale Holmes, W. C. (S.) Foley—Baldwin Mobile—Mobile
Hillhouse, J. L. Hilson, Lewis Dothan—Houston Hilt, J. L. Hines, J. A. Siluria—Shelby Hinton, L. H. Hirsh, J. E. Hodge, E. K. Hodges, E. Julian Hogan, E. P. Hogan, G. A. Hogan, J. F. Hogan, M. D. Hogan, R. E. Holding, B. F. Holley, A. F. Holley, A. F. Holley, J. F. Holling, M. C. Hollman, M. C. Holman, H. L. Dothan—Jefferson Dothan—Houston Lineville—Clay Mobile—Mobile Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Boonton, N. J.—See Jefferson Montgomery—Montgomery Gadsden—Etowah Holley, A. F. Brewton—Escambia Holley, J. F. Lockhart—Covington Huntsville—Madison Mobile—Mobile Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Mobile—Mobile
Hilson, Lewis Hilson, Lewis Hilt, J. L. Lineville—Clay Hines, J. A. Mobile—Mobile Hirsh, J. E. Hodge, E. K. Hodges, E. Julian Hogan, E. P. Hogan, G. A. Hogan, M. D. Hogan, M. D. Hogan, R. E. Holding, B. F. Holling, A. F. Holley, A. F. Holley, A. F. Holling, M. C. Hollman, H. L. Hore, J. C. Lineville—Clay Siluria—Shelby Hirmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Boonton, N. J.—See Jefferson Montgomery—Montgomery Montgomery—Montgomery Hontgoniery—DeKalb Huntsville—Madison Huntsville—Madison Mobile—Mobile Winfield—Marion Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Mobile—Mobile
Hilt, J. L. Lineville—Clay Hines, J. A. Siluria—Shelby Hinton, L. H. Mobile—Mobile Hirsh, J. E. Birmingham—Jefferson Hodge, E. K. Fairfax—Chambers Hodges, E. Julian Scottsboro—Jackson Hodges, E. Julian Scottsboro—Jackson Hodges, Rayford Scottsboro—Jackson Hodgen, P. M. Stockton—Baldwin Hogan, E. P. Birmingham—Jefferson Hogan, G. A. Birmingham—Jefferson Hogan, M. D. Birmingham—Jefferson Hogan, M. D. Birmingham—Jefferson Holding, B. F. Montgomery—Montgomery Holladay, J. J., Jr. (S.) Gadsden—Etowah Holley, A. F. Brewton—Escambia Holley, A. F. Brewton—Escambia Holley, J. F. Lockhart—Covington Holliman, J. D. Huntsville—Madison Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Mobile—Mobile
Hines, J. A. Hinton, L. H. Hinton, L. H. Hirsh, J. E. Hodge, E. K. Hodges, E. Julian Hodges, Rayford Hodgen, P. M. Hogan, E. P. Hogan, G. A. Hogan, M. D. Hogan, R. E. Hollady, J. J., Jr. (S.) Holley, A. F. Holley, J. F. Hollis, M. C. Hollis, M. C. Holloman, H. L. Hollomes, W. C. (S.) Hodges, E. Julian Scottsboro—Jackson Scottsboro—Jackson Scottsboro—Jackson Scottsboro—Jackson Scottsboro—Jackson Scottsboro—Jackson Stockton—Baldwin Notynepson Stockton—Baldwin Stockton—Baldwin Stockton—Baldwin Notynepson Stockton—Baldwin Scottsboro—Jackson Scottsboro—Jechon Scottsboro—Jackson Scottsboro—Jackson Scottsboro—Jackson
Hinton, L. H. Hirsh, J. E. Hodge, E. K. Hodges, E. Julian Hodges, Rayford Hogan, P. M. Hogan, G. A. Hogan, M. D. Hogan, R. E. Holding, B. F. Hollady, J. J., Jr. (S.) Holley, A. F. Holley, A. F. Holley, J. F. Hollis, M. C. Holman, H. L. Holman, N. W. (S.) Hodge, E. K. Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Boonton, N. J.—See Jefferson Montgomery—Montgomery Montgomery—Montgomery Huntsville—Madison Mobile—Mobile Winfield—Marion Ozark—Dale Holman, N. W. (S.) Foley—Baldwin Hope, J. C. Hobile—Mobile Mobile—Mobile Birmingham—Jefferson Birmingham—Jeffer
Hirsh, J. E. Hodge, E. K. Hodges, E. Julian Hodges, Rayford Hodgson, P. M. Hogan, E. P. Hogan, G. A. Hogan, M. D. Hogan, R. E. Holding, B. F. Holler, C. A. F. (S.) Holley, J. F. Holley, J. F. Holling, M. C. Holman, H. L. Holman, N. W. (S.) Hoges, Rayford Scottsboro—Jackson Montg
Hodge, E. K. Hodges, E. Julian Scottsboro—Jackson Hodges, Rayford Scottsboro—Jackson Hodgson, P. M. Hogan, E. P. Hogan, J. F. Hogan, M. D. Hogan, R. E. Holding, B. F. Holling, B. F. Holler, C. A. F. (S.) Holley, A. F. Holling, J. F. Holling, J. D. Holling, J. D. Holling, M. C. Holling, M. C
Hodges, E. Julian
Hogan, E. P Hogan, G. A. Hogan, J. F. Hogan, M. D. Hogan, R. E. Holding, B. F. Holler, C. A. F. (S.) Holley, J. F. Holley, J. F. Hollinan, J. D. Hollinan, J. D. Hollis, M. C. Holman, H. L. Holman, N. W. (S.) Hogan, M. D. Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Bonton, N. J.—See Jefferson Montgomery—Montgomery Montgomery—Montgomery Hontgomery Montgomery—Montgomery Hontgomery Montgomery—Montgomery Hontgomery—Montgomery Hontgomery—Montgomery Hothelman, J. J. Ft. Payne—DeKalb Brewton—Escambia Lockhart—Covington Huntsville—Madison Mobile—Mobile Ozark—Dale Holman, N. W. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Hogan, E. P Hogan, G. A. Hogan, J. F. Hogan, M. D. Hogan, R. E. Holding, B. F. Holler, C. A. F. (S.) Holley, J. F. Holley, J. F. Hollinan, J. D. Hollinan, J. D. Hollis, M. C. Holman, H. L. Holman, N. W. (S.) Hogan, M. D. Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Birmingham—Jefferson Bonton, N. J.—See Jefferson Montgomery—Montgomery Montgomery—Montgomery Hontgomery Montgomery—Montgomery Hontgomery Montgomery—Montgomery Hontgomery—Montgomery Hontgomery—Montgomery Hothelman, J. J. Ft. Payne—DeKalb Brewton—Escambia Lockhart—Covington Huntsville—Madison Mobile—Mobile Ozark—Dale Holman, N. W. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Hogan, G. A. Birmingham—Jefferson Hogan, J. F. Birmingham—Jefferson Hogan, M. D. Boonton, N. J.—See Jefferson Hogan, R. E. Ensley—Jefferson Holding, B. F. Montgomery—Montgomery Holladay, J. J., Jr. (S.) Gadsden—Etowah Holler, C. A. F. (S.) Ft. Payne—DeKalb Holley, A. F. Brewton—Escambia Holley, J. F. Lockhart—Covington Holliman, J. D. Huntsville—Madison Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Hollis, M. C. Winfield—Marion Hollman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Mobile—Mobile—Mobile—Mobile—Mobile—Mobile
Hogan, J. F. Hogan, M. D. Hogan, R. E. Holding, B. F. Holler, C. A. F. (S.) Holley, A. F. Holling, J. D. Holling, J. D. Holling, M. C. Holling, M. C. Hollman, H. L. Holman, N. W. (S.) Hogan, R. E. Boonton, N. J.—See Jefferson Montgomery—Montgomery Montgomery—Montgomery—Montgomery Montgomery—Montgomery—Hontgomery Montgomery—Montgomery—Montgomery Montgomery—Montgomery—Montgomery—Montgomery Montgomery—Montgomery—Montgomery—Montgomery Montgomery—Montgom
Hogan, M. D. Hogan, R. E. Holding, B. F. Holladay, J. J., Jr. (S.) Holley, A. F. Holley, J. F. Holliman, J. D. Hollis, M. C. Holman, H. L. Holman, N. W. (S.) Hogan, M. D. Ensley—Jefferson Montgomery—Montgomery Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery—Montgomery Montgomery Montgomery—Montgomery Montgomery
Hogan, R. E. Ensley—Jefferson Holding, B. F. Montgomery—Montgomery Holladay, J. J., Jr. (S.) Gadsden—Etowah Holler, C. A. F. (S.) Ft. Payne—DeKalb Holley, J. F. Brewton—Escambia Holley, J. F. Lockhart—Covington Holliman, J. D. Huntsville—Madison Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Holman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Holding, B. F. Holladay, J. J., Jr. (S.) Holler, C. A. F. (S.) Holley, A. F. Holley, J. F. Holliman, J. D. Hollis, M. C. Hollman, H. L. Hollman, N. W. (S.) Holman, W. C. (S.) Holman, M. C. Mobile—Mobile Mobile—Mobile Mobile—Mobile Mobile—Mobile
Holladay, J. J., Jr. (S.) Holler, C. A. F. (S.) Holley, A. F. Holley, J. F. Holliman, J. D. Hollis, L. W. Hollis, M. C. Hollman, H. L. Holman, N. W. (S.) Holman, W. C. (S.) Holmes, W. C. (S.) Holpe, J. C. Gadsden—Etowah Ft. Payne—DeKalb Ft. Payne—DeKalb Ft. Payne—DeKalb Hr. Payne—DeKalb Hore, J. C. Gadsden—Etowah Ft. Payne—DeKalb Hore, J. C. Howan Hore, J. C. Gadsden—Etowah Gadsden—Etowah Ft. Payne—DeKalb Hore, J. C. Brewton—Esowah Hore, J. C. Foley—Baldwin Mobile—Mobile
Holliman, J. D. Huntsville—Madison Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Holman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Holliman, J. D. Huntsville—Madison Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Holman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Holliman, J. D. Huntsville—Madison Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Holman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Holliman, J. D. Huntsville—Madison Hollis, L. W. Mobile—Mobile Hollis, M. C. Winfield—Marion Holman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Holman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Holman, H. L. Ozark—Dale Holman, N. W. (S.) Ozark—Dale Holmes, W. C. (S.) Foley—Baldwin Hope, J. C. Mobile—Mobile
Holmes, W. C. (S.)
Holmes, W. C. (S.)
Hope, J. C. Mobile-Mobile
Horn. J. R. Bessemer—Jefferson
Horn S W Bessemer Infferson
Horsley, H. L. Boaz—Marshall
Horsley, H. L. Boaz—Marshall Hough, J. S. Montgomery—Montgomery Howard, P. J. Mobile—Mobile
Howard, P. J. Mobile—Mobile
Howell, J. P. (S.) Selma—Dallas Howell, J. V. Marion—Perry
Howell, J. V. Marion—Perry
Howell, W. E. Haleyville—Winston
Howell, W. E. Haleyville—Winston Howle, J. A. Hartselle—Morgan
Howell, W. E. Haleyville—Winston

Name	Town and County	Name	Town and County
Hubbard, T. B.	Montgomery—Montgomery	Kahn, S. A. (S.)	Birmingham—Jefferson Montgomery—Montgomery
Huckaby, G. B.	Tallassee—Elmore	Kaiser, E. N. (S.)	Montgomery—Montgomery
Huckaby, W. R.	Tallassee—Elmore Guntersville—Marshall	Kay, F. A	Tuscaloosa—Tuscaloosa
Huddleston, R. L.	Deatsville—Elmore	Kelly, A. L.	Excelsior Spgs., Mo.—See Geneva
Hudson, P. D.	Opelika—Lee Anniston—Calhoun	Kenan, James	Evergreen—Conecuh Selma—Dallas
Huey T F Jr (S)	Anniston—Calhoun	Kendrick, J. E. (S.)	Greenville—Butler
Hughes, B. A.	Tarrant—Jefferson	Kennedy, B. H., Jr.	Greenville—Butler Birmingham—Jefferson
Hughes, J. W	Decatur—Morgan	Kennedy, F. F. (S.)	Birmingham—Jefferson
Hughes, M. P.	Tarrant—Jefferson Decatur—Morgan Gadsden—Etowah	Kennedy, J. J.	Tuscaloosa—Tuscaloosa
Hughes, V. P	Cullman—Cullman		Florence—Lauderdale E. Tallassee—Tallapoosa
Hunt, H. C. (S.)	Livingston—Sumter Fairfax—Chambers		Birmingham—Jefferson
Hunt Marston	Boaz—Marshall	Keyton, J. A.	Dothan—Houston
Hurst, J. C.	Boaz—Marshall Opp—Covington	Killian, C. D.	Ft. Payne—DeKalb
Hutto, A. S.	Pinson—Jefferson	Killingsworth, N. W.	Brundidge—Pike
Hyatt, E. M.	Albertville—Marshall	Kilpatrick, G. C.	Brundidge—Pike Mobile—Mobile E. Gadsden—Etowah
		Kimbrough C E	E. Gadsden—Etowan Linden—Marengo
Inge, F. M.	Mobile—Mobile Mobile—Mobile	Kimbrough, R. M.	Powderly—Jefferson
Inge, J. T	Mobile—Mobile	Kimbrough, W. E.	Chatom—Washington
Ingram, G. H.	N. Little Rock, Ark.—See Mobile	Kimmey, J. M. (S.)	
Irons, R. A.	Thomasville—Clark Moulton—Lawrence	Kincannon, L. T.	Birmingham—Jefferson
Irwin W H (S.)	Birmingham—Jefferson	King, C. O.	Birmingham—Jefferson Birmingham—Jefferson
Irwin, W. W.		Kinkead, K. J.	Birmingham—Jefferson Birmingham—Jefferson
Isbell, A. L.	Albertville—Marshall	Kirby, L. E Kirk. A. A.	Tuscaloosa—Tuscaloosa
Isbell, E. A.	Gadsden—Etowah Birmingham—Jefferson	Kirk, A. T.	Gordo, Rt. 2—Pickens
Issos, D. N.	Birmingham—Jefferson	Kirklin, M. A.	Mobile—See Pike
			Montgomery—Montgomery
Jackson, A. A.	Florence—Lauderdale Jasper—Walker Montgomery—Montgomery		Selma—Dallas
Jackson, A. C.	Jasper—Walker	Klein, W. W	Altoona, Rt. 2—Blount
Jackson, B. F.	Montgomery—Montgomery Montgomery—Montgomery	Knight, J. H.	Forkland—Greene Birmingham—Jefferson Brent—Bibb Madison—Madison Andalusia—Covington
Jackson C A	York—Sumter	Krout, C. F.	Brent—Bibb
Jackson, D. E.	Lester—Limestone	Kyser, J. A.	Madison—Madison
Jackson, H. L.	Birmingham—Jefferson	Kyzar, J. H.	. Andalusia—Covington
Jackson, J. A.	Sulligent—Lamar		
Jackson, L. F.	Panola—Sumter Hayneville—Lowndes		Montgomery—Montgomery
James, N. G.	Hayneville—LowndesTucson, Ariz.—See Jackson		Birmingham—Jefferson
James, S. H.	Birmingham—Jefferson		Alexander City—Tallapoosa Mulga—Jefferson
Jenkins, J. F., Jr. (S.)	Birmingham—Jefferson	Larv. J. H. (S.)	Huntsville—Madison
Johns, L. J.	Birmingham—Jefferson Lineville—Clay	Laslie, C. G.	Huntsville—Madison Montgomery—Montgomery
Johnson, C. E.	Lineville—Clay	Latiolais S G	Dothan—Houston
Johnson, Claud	Montgomery—Montgomery	Laughlin, J. B.	Huntsville—Madison Albertville—Marshall
Johnson, G. T. (S.)	Mobile—Mobile Montgomery—Montgomery	Lavender, B. N.	Albertville—Marshall
Johnson J C	Hamilton—Marion	Lavender, C. B. (S.)	Fairfield—Jefferson
Johnston, F. T.	Brundidge—Pike	Lawrence, Toombs	Clanton—Chilton Tuscaloosa—Tuscaloosa
Johnston, Hardee	Birmingham—Jefferson	Lawson, C. L	Gadsden—Etowah
Johnston, I. L.	Samson—Geneva		Gadsden—Etowah
Johnston, J. C.	Chapman—Butler	Leach, C. N.	Montgomery—Montgomery
Johnston, J. D.			Gadsden—Etowah Tuscaloosa—Tuscaloosa
*	West Blocton—Bibb	Leatherwood, E. F.	Hayneville—Lowndes
Jones, G. W.	Parrish—Walker	Ledbetter, S. L. Jr	Birmingham—Jefferson
Jones, I. N.	Greensboro—Hale	Lee, A. B.	Shawmut—Chambers
Jones, J. A., Jr. (S.)	Opelika—Lee		Luverne—Crenshaw
Jones, J. P. Jones, T. J.	Camden—Wilcox Marion—Perry	Lee, L. T.	Selma—Dallas
Jones, U. L.	Brooklyn—Conecuh	Lee, W. E	Birmingham—Jefferson
Jones, Walter C.	Birmingham—Jefferson	Lester, B. S.	Ft. Deposit—Lowndes Birmingham—Jefferson Birmingham—Jefferson Mobile—Mobile
Jones, Wm. C	Mobile—Mobile	Lester, R. P.	
Jones, W. N.	Birmingham—Jefferson	Lett, E. R	Tallassee—Elmore
Jordan, H. C.	Robertsdale—Baldwin	Levi, I. P.	Anniston—Calhoun Montgomery—See Geneva
	Robertsdale—Baldwin	Lewis, B. J.	Birmingham—Jefferson
Jordan, James	McKenzie—Butler	Lewis, C. F.	Birmingham—Jefferson Birmingham—Jefferson
	Birmingham—Jefferson		Birmingham—Jefferson
Jordan, Jos. Wiley		Lewis, W. A.	Enterprise—Coffee
	Tuscaloosa—Tuscaloosa	Leyden, H. A.	
Jordan, W. F Jordan, W. M.	Huntsville—Madison Birmingham—Jefferson		Shorter—Macon
	Birmingham—Jefferson Birmingham—Jefferson	Linder, B. G.	Birmingham—Jefferson Birmingham—Jefferson
Justice, J. D.		Lineberry, F. D.	Birmingham—Jefferson
Castice, v. D.	Zammigham verrer son		

Name	Town and County	Name	Town and County
Linn, J. E. (S.)	Birmingham—Jefferson	McCafferty, E. L.	Mt. Vernon—Mobile
Lisenby, J. O	Atmore—Escambia	McCain. W. J.	Livingston—Sumter
Lister, R. H.	Birmingham—Jefferson	McCall, D. T.	Livingston—Sumter Mobile—Mobile
Little, E. G.	Gadsden—Etowah	McCann, R. B.	Seale—Russell
Little, J. H. (S.)	Gadsden—Etowah Mobile—Mobile	McCarn, O. C., Jr. (S.).	Birmingham—Jefferson Union Springs—Bullock
Littlejohn, W. S. (S.).	Birmingham—Jefferson	McCaslan, W. H.	Union Springs-Bullock
Littlepage, G. F	Sheffield—Colbert	McCay, T. C	Gadsden—Etowah
Littlepage, T. M.	Butler—Choctaw Birmingham—Jefferson Anniston—Calhoun	McClure, H. A.	Vernon—Lamar
Livingston, J. A.	Birmingham—Jefferson	McConnico, F. H.	Vernon—Lamar Montgomery—Montgomery
Lloyd, W. K	Anniston—Calhoun	McCord, Bert	Gadsden—Etowah
Locke, W. W. (S.)	Birmingham—Jefferson	McCorkle, F. W.	Gadsden—Etowah Huntsville—Madison
Long, Clarence	Hurtsboro—Russell	McCown, W. G. (S.)	— Huntsville—Madison
Long, D. J.	Montgomery—Montgomery	McCrary, D. W	Stevenson—Jackson
Long, J. R.	Marion—Perry Selma—Dallas	McCrary, G. C.	Jackson—Clarke Oxford—Calhoun
Long, R. N.	Selma—Dallas	McCraw, R. T.	Oxford—Calhoun
Long, T. F.	Coffeeville—Clarke	McCrossin, W. P., Jr. Co	olorado Springs—See Jefferson
Long, W. H. (S.)	Birmingham—Jefferson Birmingham—Jefferson		Russellville—Franklin
Long, W. W.	Birmingnam—Jerierson	McDaniel, Joe Crosby	Birmingham—Jefferson
Lonnergan, L. R. (S.)	washington, D. C.—See Etowan	McDaniel, Jos. Columbus	York—Sumter Gadsden—Etowah
Love, J. T.	Birmingham—Jefferson	McDiarmid, T. S.	Gadsden—Etowah
Lovelady, R. G	Birmingham—Jefferson		Union Springs—Bullock
Lovelady, w. H	Hartselle—Morgan		Birmingham—Jefferson
	Sipsey—Walker		Geneva—Geneva
Lovvorn, R. C.	Newell—Randolph Gadsden—Etowah		Attalla—Etowah
Lucas, F. B.	Pirmingham Infforcen		Dolomite—Jefferson
Lucas, R. L. (S.)	Birmingham—Jefferson Eutaw—Greene		Gadsden—Etowah
Lucius, R. S.	Solma Dallas	McFatter, T. K.	Dothan—Houston
Luckie, K. E.	Selma—Dallas Birmingham—Jefferson	McGahey, R. G.	Birmingham—Jefferson
Lunton E A	Birmingham—Jefferson	McGahey, T. P.	Birmingham—Jefferson
Lupton, r. A.	Scottsboro—Jackson	McGehee, H. T.	Birmingham—Jefferson Mobile—Mobile
Lynch, W. 11.	Scottsboi o sackson	McGehee, P. D.	Mobile—Mobile
77 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7	One Green stars	McGenee, W. W	Montgomery—Montgomery
MacLennan, E. R. (S.)	Opp—Covington Birmingham—Jefferson	McGnee, Moses	Daleville—Dale Sheffield—Colbert Birmingham—Jefferson
Madday John W	Andmone Limestone	McGrain, W. E.	Pirmingham Lefferson
Maddox, John W	Ardmore—Limestone	McGraw, r. J. (S.)	Clic Parbour
Majore W B (S)	Birmingham—Jefferson	Mointach E I	Camdon Wilcox
Majuro F O (S)	Tuscaloosa—Tuscaloosa Wetumpka—Elmore	McKinnon H A	Camden—Wilcox Birmingham—Jefferson
Malone I C	Faunsdale, RFD—Marengo	McKimon, II. A.	Huntsville—Madison
Manasco Hobson (S)	Carbon Hill—Walker	McLain A D	Salem—Lee
	Mexico, Mo.—See Walker		Blue Springs—Barbour
	Roanoke—Randolph		Lincoln—Talladega
Manles J H	Elkmont—Limestone		Birmingham—Jefferson
Maples, J. M.	Killen, RFD—Lauderdale	McLellan T. R.	Aliceville—Pickens
Maples, W. E.	Killen, RFD—Lauderdale — Athens—Limestone	McLeod. C. D.	
Markheim, H. R. (S.)	Cullman—Cullman	McLeod, J. C.	Bay Minette—Baldwin
Marks, R. H.	Montgomery—Montgomery	McLester, J. B. (S.)	Birmingham—Jefferson
Marlette, G. C.	New Orleans—See Escambia	McLester, J. S.	Birmingham—Jefferson Birmingham—Jefferson
Marsh, J. S.		McMillan, S. B.	Frisco City—Monroe
Marshall, W. L.	Langdale—Chambers Headland—Henry Montgomery—Montgomery	McMurphy, J. P.	
Martin, C. T. (S.)	Headland—Henry	McNabb, J. T. (S.)	. Alabama City—Etowah
Martin, F. J. (S.)	Montgomery—Montgomery	McNease, B. W.	Alabama City—Etowah Fayette—Fayette Birmingham—Jefferson
Martin, H. F. (S.)	Birmingham—Jefferson Montgomery—Montgomery	McQueen, J. P.	Birmingham—Jefferson
Martin, J. A. (S.)	Montgomery—Montgomery	McQuiddy, R. C.	Birmingham—Jefferson
Martin, J. C.	Cullman—Cullman	McRee, H. C.	Hamilton—Marion
Martin, J. H.	Selma—Dallas	McVay, L. V.	
Martin, R. A.	Pell City—St. Clair	Meadows, H. H., Jr. (S.)	Montgomery—Montgomery
Martin, T. E.	Guntersville—Marshall		Birmingham—Jefferson
Martin, T. M.	Plantersville—Dallas	Meeker, W. R. (S.)	Mobile—Mobile
	Birmingham—Jefferson	Meeks, A. A.	Marvel—Bibb
Martz, Harry (S.)	Birmingham—Jefferson	Mehaffey, J. W	Birmingham—Jefferson
	Suttle—Perry	Meharg, S. T.	Anniston—Calhoun
	Birmingham—Jefferson	Meharg, W. G.	Anniston—Calhoun
	Birmingham—Jefferson	Meigs, J. H. (S.)	Anniston—Calhoun
	Enterprise—Coffee	Meigs, S. C.	Centerville—Bibb
	Wedowee—Randolph	Meneray, W. E.	Gadsden—Etowah
	Ozark—Dale		Montgomery—Montgomery
	Tuscaloosa—Tuscaloosa	Meyer, Jerome	Birmingham—Jefferson
	Sheffield—Colbert		Birmingham—Jefferson
	Powhatan—Jefferson		Oneonta—Blount
	Lower Peach Tree—Wilcox	Miller, D. A. (S.)	Birmingham—Jefferson
	Tuscaloosa—Tuscaloosa		Wylam—Jefferson
	Elkmont—Limestone	Millor S T	Haleyville—Winston Yantley—Choctaw
	Dothan—Houston Cullman—Cullman	Miller W I	Gadsden—Etowah
	University—Tuscaloosa	Milligan R I.	Montgomery—Montgomery
	Only Crafty—I uscaroosa	minigan, it. D.	and a second second

Name	Town and County	Name Nutter, R. A.
Minor, W. H. (S.) Minot, Dobbs (S.).	Mobile—Mobile Eutaw—Greene	Nye, G. E.
A.F.: T. A.	Tues Comston	1,70, 0, 1
Minus, J. A Mitchell, H. E.	Birmingham—Jefferson	O'Connell, Edw
Mitchell, J. I.	Double Springs—Winston Rt. 7, Birmingham—Jefferson	Odom, H. G.
Mitchell, S. A	= Rt. 7, Birmingham—Jefferson	O'Gwynn, J. C.
Mohr, C. A.	Mobile—Mobile	O'Gwynn, J. C.,
Monday D. B. (S.)	White Plains (N. Y.)—See Lamar Montgomery—Montgomery	Oliver, J. T Olivet, C. A.
Montgomery Arthur H.	Montgomery—Montgomery	O'Neal, L. C. (S
Montgomery, J. Ethel	Belle Ellen—Bibb	Orr, W. L
Moody, E, F	Dothan—Houston	Orton, A. E.
Moody, I. W. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa	Oswalt, G. G.
Moody, Maxwell	Tuscaloosa—Tuscaloosa	Owen, H. R. (S. Owens, A. H.
Moon F P	Empire—Walker Wetumpka—Elmore	Owens, John H
Moore C H	Birmingham—Jefferson	Owings, W. J.
Moore, C. R.	Clanton—Chilton Talladega—Talladega	Owsley, W. M.
Moore, C. W. C.	Talladega—Talladega	Owsley, W. S.
Moore, D. S., Jr.	Birmingnam—Jenerson	D.1 T.11
Moore, E. G.	Tallassee—Elmore Livingston—Sumter	Palmer, Julian Parker, C. E. R.
Moore J G	Birmingham—Jefferson	Parker, D. F.
Moore, J. H.	Lafayette—Chambers	Parker, H. J. (S
Moore, L. H.	Orrville—Dallas	Parker, L. D.
Moore, W. R.	Florence—Lauderdale	Parker, L. L.
Moore, W. W.	Camden—Wilcox Mt, Vernon—Mobile	Parker, P. H. (S
Moorer, M. L. Moorman, J. D. (S.) Moorman, M. R.	Huntsville—Madison	Parker, S. R. Parnell, C. N.
Moorman, M. R.	Huntsville—Madison	Parnell, L. C.
Morgan, J. O	Gadsden—Etowah	Parris, Briggs
Morgan, J. R.	Birmingham—Jefferson	Parrish, W. A.
Morgan, J. R. Morland, H. C.	Birmingham—Jefferson	Parsons, J. L.
Morris, H. R	Birmingham—Jefferson West Point (Ga.)—See Chambers	Parsons, W. C.
	Birmingham—Jefferson	Partlow, R. C. Partlow, W. D.
Morton, L. E.		Partridge, C. V.
Moseley, S. O.	Selma—Dallas	Patterson, R. I
Motley, J. P. (S.)		Patterson, R. R
Motley, S. D.		Patton, T. H., J
Motyka, S. J. Mount, Bernard	Cudahy, Wis.—See Etowah Montgomery—Montgomery	Patton, W. B. (a Payne, B. C
Mulherin, H. G.	Mobile—Mobile	Payne, E. C.
Murphree, C. L.	Gadsden—Etowah	Payne, T. J., Jr
Murphree, L. R.		Payne, W. N.
Murphy, C. M.	Aliceville—Pickens	Peacock, L. E.
Murphy, G. E. (S.)	Birmingham—Jefferson Brewton—Escambia	Peake, J. D Peck, Willena
Murphy, Iva G. (S.). Murphy, S. S., Jr.		Pennington, J.
Muscat, J. O	Mobile—Mobile	Penton, J. R.
		Perdue, J. D.
Nabers, F. E.	Birmingham—Jefferson	Perley, A. I. (S
Nabers, S. F.	Birmingham—Jefferson Grove Hill—Clarke	Perry, A. R. (S.
Neal, R. D.	Grove Hill—Clarke Fairfield—Jefferson	Perry, E. B. (S. Peters, U. J. W
Nelson W B	Bay Minette—Baldwin	Peterson, E. J.
Neville, C. W.	Flat Creek—Jefferson	Peterson, J. J.
Newburn, G. W.	Prichard—Mobile	Pettus, B. S.
Newdorp, John (S.).	Montgomery—Montgomery	Pettus, J. J.
Newfield, S. U.	Birmingham—Jefferson Dadeville—Tallapoosa Prattville—Autauga	Pierce, W. M. Pierson, T. C.
Newman, Lucian (S.)	Prattville—Autauga	Piper, B. L.
Newton G G	Evergreen—Conecuh	Pitchford, J. D
Nice, C. M.	Birmingham—Jefferson	Pitt, C. K
Nichols, Cobb	Rockville—Clarke	Pitts, E. B.
Nicholson, L. B.	Gadsden—Etowah	Place, E. H. (S. Planck, E. H., J
Nicholson, W. J.	Centerville—Bibb	Pollard, C. T.
Nickerson, Paul	Sylacauga—Talladega	Pool, R. M.
Noble, William (S.)	Attalla—Etowah	Poole, W. L
Nodine, E. R.	Montgomery—Montgomery	Pope, E. C
Noland, Lloyd	Fairfield—Jefferson	Posey, B. F.
Norton F M	Greensboro—Hale Birmingham—Jefferson	Posey, J. F. Posey, L. C. (S
Norton, R. O.	Louisville—Barbour	Pow, J. R.
Nungester, G. H. (S.)	Decatur—Morgan	Powell, H. B.

Name	Town and County
Nutter, R. A.	Birmingham—Jefferson
Nye, G. E.	Scottsboro—Jackson
O'Connell Edward	Birmingham—Jefferson
Odom. H. G.	Irondale—Jefferson
O'Gwynn J. C.	Mohile—Mohile
O'Gwynn, J. C., Jr. (S.)	Mobile—Mobile Birmingham—Jefferson Haleyvillc—Winston Andalusia—Covington
Oliver, J. T.	Birmingham—Jefferson
Olivet, C. A.	Haleyville—Winston
O'Neal, L. C. (S.)	Andalusia—Covington
Orr, W. L.	Ozark—Dale Bessemer—Jefferson
Orton, A. E.	Bessemer—Jefferson
Owen H P (S)	Mobile—Mobile Union Springs—Bullock
Owens A H	Union Springs—Bullock Ashland—Clay Ashland—Clay
Owens, John Harlan	Ashland—Clay
Owings, W. J. B.	Brent—Bibb
Owsley, W. M.	Brent—Bibb Eclectic—Elmore
Owsley, W. S.	Opelika—Lee
Paimer, Julian G.	Opelika—Lee Montgomery—Montgomery
Parker, C. E. K. (S.)	Montgomery—Montgomery Birmingham—See Bullock
Parker H J (S)	Madison—Madison
Parker, L. D.	Andalusia—Covington
Parker, L. L.	Andalusia—Covington
Parker, P. H. (S.)	Andalusia—Covington Andalusia—Covington Margaret—St. Clair
Parker, S. R.	Aliceville—Pickens Maplesville—Chilton
Parnell, C. N.	Maplesville—Chilton
Parnell, L. C	Montevallo—Shelby
Parris, Briggs	Geraldine—DeKalb
Parrish, W. A.	Engley Jefferson
Parsons, J. L.	Birmingham—Lefferson
Partlow R C	Tuscaloosa—Tuscaloosa
Partlow, W. D.	Tuscaloosa—Tuscaloosa
Partridge, C. V. (S.)	Midland City—Dale Ensley—Jefferson Birmingham—Jefferson Tuscaloosa—Tuscaloosa Tuscaloosa—Tuscaloosa Mobile—Mobile
Patterson, R. B	Louisville—Barbour
Patterson, R. R.	Birmingham—Jefferson
Patton, T. H., Jr. (S.)	Tuscaloosa—Tuscaloosa
Patton, W. B. (S.)	Birmingham—Jefferson
Payne, B. C.	Lewisburg—Jefferson New Castle—Jefferson
Payne T I Ir	Jasper—Walker
Pavne, W. N.	Bessemer—Jefferson
Peacock, L. E.	West Blocton—Bibb
Peake, J. D.	Mobile—Mobile Montevallo—Shelby Rt. 2, Birmingham—Jefferson
Peck, Willena	Montevallo—Shelby
Pennington, J. A.	Rt. 2, Birmingham—Jefferson
Penton, J. R.	Montgomery—Montgomery
Perdue, J. D.	Mobile—Mobile Lafayette—Chambers
Perry A R (S)	Mobile—Mobile
Perry, E. B. (S.)	Bessemer—Jefferson
Peters, U. J. W.	Birmingham—Jefferson
Peterson, E. J.	Mobile—Mobile Bessemer—Jefferson Birmingham—Jefferson Birmingham—Jefferson
Peterson, J. J	
Pettus, B. S.	Mobile—Mobile Athens—Limestone Belle Mina—Limestone
Pettus, J. J.	Belle Mina—Limestone
Pierce, W. M.	Tuscumbia—Colbert
Piper R I	Alden—Jefferson Georgiana—Butler
Pitchford, J. D.	Sylacauga—Talladega
Pitt C K	Decatur—Morgan
Pitts, E. B	Fairfield—Jefferson
Place, E. H. (S.)	Birmingham—Jefferson
Planck, E. H., Jr.	Foley—Baldwin
Pollard, C. T.	Montgomery—Montgomery
Pool, R. M.	Fairfield—Jefferson
Pone F C	Detroit, Mich.—See Jefferson Birmingham—Jefferson
Posev B F	Birmingham—Jefferson
Posey, J. F.	Anniston—Calhoun
Posev, L. C. (S.)	Birmingham—Jefferson
Pow. J. R	Woodward—Jefferson
Powell, H. B.	Gadsden—Etowah

(S.)

Town and County

Mobile-Mobile

Name	Town and County	Name
Powers, A. D.	Titus—Elmore Athens—Limestone	Rumpanos, S. N. Russell, R. O.
Prather, R. C.		Rutherford, C. L.
Duethen John	Sonlo Duccoll	Ryan, J. M.
Prescott. W. E.	Birmingham—Jefferson	20,000,000
Prescott, W. E., Jr.	Birmingham—Jefferson Birmingham—Jefferson	Sacks, H. M.
Price, A. L.	Sylacauga—Talladega	Salley, G. W.
Price, E. S.	Tuscaloosa—Tuscaloosa	Salter, C. L.
Price, L. C. (S.)	Florence—Lauderdale	Salter, P. P.
Pruett, D. P.	Columbia—Houston	Salter, W. M.
	by, Montgomery—See Jefferson	Samford, M. W
Pryor, R. B.	Pell City—St. Clair	Samuel, I. J
Pugh, J. T.	Grove Hill—Clarke	Sanders, E. H
Pye, Alice Hill	Montgomery—Montgomery	Sanders, J. G.
		Sanders, S. R.
Ralls, A. W.	Gadsden—Etowah Hartselle—Morgan	Sanders, W. B.
Ramey, D. R., Jr. (S.)	Hartselle—Morgan	Sandlin, E. G.
	Birmingham—Jefferson	Sankey, H. J.
Rawis, V. Q.	Andalusia—Covington Gantt—Covington	Savage, C. H. Savage, H. J
	Ensley—Jefferson	Savage, Victor
	Jacksonville—Calhoun	Scales, J. P
Reagan, Cas	Birmingham—Jefferson	Scales, W. W.
Reaves, J. U.	Mobile—Mobile	Scarbrough, B. C.
Redden, R. H.	Sulligent—Lamar	Schapiro, M. M. (S
Reid, James	Clayton—Barbour	Schoolar, T. E.
Reid, J. I.	Montevallo—Shelby	Scofield, T. F.
Reim, N. H.	Tuscaloosa—Tuscaloosa	Scott, E. M.
Rennie, T. L.	Pell City—St. Clair	Scott, E. M., Jr. (S
Reynolds, F. D.	Montgomery—Montgomery	Scott, Marvin
Reynolds, G. C	Brundidge—Pike Ozark—Dale	Scott, W. F.
	Jefferson—Marengo	Scrivner, J. D. Searcy, H. B
	Valley Head—DeKalb	Seay, J. E.
	Montgomery—Montgomery	Segrest, G. O.
	Pleasant Hill—Dallas	Seibold, J. L.
Rike, H. C.	Birmingham-Jefferson	Self, G. W.
Riley, H. C.	Coffee Springs—Geneva	Sellers, D. F.
Riser, W. H.	Lafayette—Chambers	Sellers, H. G
Roach, A. N. T.	Mobile—Mobile	Sellers, I. J.
Roan, A. M.	Decatur—Morgan	Sellers, N. E.
	Florence—Lauderdale	Sellers, W. A.
Roberts I M	Riverside—St. Clair Vernon—Lamar	Sellers, W. D. Sellers, W. L. Jr. (
Roberts, M. J. (S.)	Mobile—Mobile	Sentell, J. H.
Roberts, S. S.	Florence—Lauderdale	Sewell, J. F.
Roberts, W. S.	Birmingham—Jefferson	Shackelford, Frank
Robertson, B. O.	Birmingham—Jefferson	Shackelford, W. L.
Robertson, J. B.	Birmingham—Jefferson Fayette—Fayette	Shaddix, M. L.
Robertson, J. P.	Birmingham—Jefferson	Shamblin, J. L.
	Coffeeville—Clarke	Shamblin, J. R. (S
Robinson, C. B.	Marion—Perry	Shamblin R. D. (
Robinson, E. B. (S.)		Shamblin, W. G.
Rodriguez J M (S)	Edna—Choctaw Louisville—Barbour	Shanks, R. G. Shannon P W
	Mobile—Mobile	Shannon, P. W Shaw, R. E
	Albertville—Marshall	Shaw, R. W.
		Shearer, F. E.
Roscoe, G. J.		Shelamer, A. M. (S
	Mohile Mohile	Shell, L. P.
	Mobile—Mobile	Shelton, S. W. (S.)
	Birmingham—Jefferson	Shepherd, R. H
	Montgomery—See Lee	Sheppard, J. T. (S
	nas Sta., Birmingham—Jefferson	Sherer, R. J.
	Mobile—Mobile	Sherman, Morris
Rower W. W.	Birmingham—Jefferson	Sherrill, J. D.
	Attalla—Etowah	Shipp, M. G.
	Hanceville—Cullman	Shirley, J. E. Shores, S. S.
Rowe, H. S.	Mt. Vernon—Mobile	Shropshire, C. W.
Rowe, J. F	Mobile—Mobile	Shugerman, H. P.
Rowe, M. C. (S.)	Dothan—Houston	Sibley, B. D.
Rowe, M. S.	Gadsden—Etowah	Sigrest, O. R.
	Birmingham—Jefferson	Silvey, G. E
	Toxey—Choctaw	Simon, H. E. (S.)
Rudulph, C. M.	Birmingham—Jefferson	Simpson, H. M.

Birmingham-Jefferson Mobile-Mobile Helena-Shelby Troy-Pike Atmore-Escambia Talladega-Talladega Eufaula-Barbour Anniston—Calhoun Opelika-Lee Altoona-Etowah Columbiana—Shelby Mobile---Mobile Moulton-Lawrence Troy-Pike Holly Pond-Cullman Nauvoo-Walker Crichton-Mobile Gadsden-Etowah Kennedy-Lamar Livingston-Sumter Mobile-Mobile Albertville-Marshall Ensley-Jefferson Centerville-Bibb Birmingham—Jefferson Birmingham-Jefferson Birmingham-Jefferson Headland-Henry Birmingham-Jefferson Berry-Fayette Tuscaloosa-Tuscaloosa Birmingham-Jefferson Mobile-Mobile Birmingham-Jefferson Oneonta-Blount Mobile---Mobile Birmingham-Jefferson Birmingham-Jefferson Anniston-Calhoun Montgomery-Montgomery Birmingham-Jefferson (S.) Mobile-Mobile New Hope-Madison Wetumpka-Elmore Hope Hull-Montgomery ık Gordo, Rt. 1-Pickens Ashland-Clay Tuscaloosa-Tuscaloosa S.) Tuscaloosa-Tuscaloosa (S) Tuscaloosa-Tuscaloosa Tuscaloosa-Tuscaloosa Autaugaville-Autauga Birmingham-Jefferson Whatley-Clarke Gilbertown—Choctaw Sylacauga—Talladega S.) Athens-Limestone Abbeville-Henry Montgomery-Montgomery Jasper-Walker Gadsden-Etowah Pittsburg-See Walker Sylacauga—Talladega Birmingham-Jefferson Anniston-Calhoun Tuscaloosa-Tuscaloosa Carbon Hill-Walker Birmingham-Jefferson Birmingham-Jefferson Birmingham-Jefferson Gadsden-Etowah Gadsden-Etowah Birmingham-Jefferson Florence-Lauderdale

Name	Town and County
Simpson, John Wesley	Parrish—Walker
Simpson, John William	Birmingham—Jefferson
Simpson, S. Paul (S.)	 Alabama City—Etowah
Simpson, W. C. (S.)	Gadsden—Etowah
Sims, A. G., Jr.	Rt. 8, Birmingham—Jefferson
	Renfroe—Talladega
Siniard, E. C Sizemore, D. M	Birmingham—Jefferson Sulligent—Lamar
Skinner, I. C.	Selma—Dallas
Skinner, M. M.	Selma—Dallas
Skinner, P. B.	Fairhope—Baldwin
Sledge, E. S.	Mobile—Mobile
Sloan, E. F.	Columbiana—Shelby
Smith, C. H.	Birmingham—Jefferson
Smith, C. K. Smith, D. D. (S.)	Greensboro—Hale Birmingham—Jefferson
Smith, E. B.	Birmingham—Jefferson
Smith, F. C.	Bessemer—Jefferson
Smith, G. H.	Ensley—Jefferson
Smith, G. R. (S.)	Ozark—Dale
Smith, H. R. (S.)	Birmingham—Jefferson
Smith, J. C.	Birmingham—Jefferson
Smith, J. D.	Tuscaloosa—Tuscaloosa
Smith, J. H	Selma—Dallas Montgomery—Montgomery
Smith, J. L. Smith, J. P.	Eutaw—Greene
Smith, J. S	Montgomery—Montgomery
Smith, M. E. (S.)	Parrish—Walker
Smith, Murray	
Smith, Rayford A.	
Smith, T. L.	Birmingham—Jefferson
Smith, T. O	Wilsonville—Shelby Leeds—Jefferson
Smith, V. B. (S.)	Montgomery—Montgomery
Snelling, D. B. (S.)	
Snoddy, S. J.	Russellville—Franklin
	Birmingham—Jefferson
Snow, J. W., Jr.	
Snow, W. R. Somerset, S. M.	
Sorrell, L. E.	Birmingham—Jefferson
Sowell, J. L.	Jasper—Walker
Sparks, D. H	Birmingham—Jefferson
Spearman, G. K. (S.)	
Speir, H. P. Speir, P. V.	Greenville—Butler
Speir R C	Jackson Miss — See Wilcox
Spies, T. D.	Birmingham—Jefferson
Spitzberg, R. H. (S.) Spratt, R. D.	Mobile—Mobile
Springer, H. C.	Livingston—Sumter Bessemer—Jefferson
Spruell, W. H. (S.)	
Spruill, G. E.	Ethelsville—Pickens
Stabler, A. A. (S.)	Greenville—Butler
Stabler, A. L. Stabler, E. V.	Birmingham—Jefferson
	Greenville—Butler Greenville—Butler
	Benton—Lowndes
Stallings H S	Trov—Pike
Stallworth C. J.	Thomaston—Marengo
Stallworth, E. L.	Evergreen—Conecuh
Stallworth, J. P.	Canoe—Escambia
Stallworth, R. W	Evergreen—Conecuh Canoe—Escambia Evergreen—Conecuh Frisco City—Monroe
Stanley, W. A.	Enterprise—Coffee
Stansherry C I.	Oneonta-Blount
Stayer, Glenn	Birmingham—Jefferson
Stephens, A. R.	Delta—Clay
Stephens, B. A.	Lineville—Clay Slocomb—Geneva
Stenhens S H	Mobile—Mobile
Stephens, W. C. (S.)	Mobile—Mobile
Stevenson, F. C.	Montgomery—Montgomery
	Roanoke—Randolph
Stewart, G. E.	Fayette—Fayette Birmingham—Jefferson
Stewart, J. J	

Name	Town and County
	Sylacauga—Talladega
Stewart, R. C. Stewart, R. L. (S.)	Bessemer—Jefferson
Stewart, R. T.	Sylacauga—Talladega
Stewart, W. P.	Troy—Pike
Stewart, W. P. Stickley, C. S.	Montgomery—Montgomery
Stinson, W. E.	Piper—Bibb
Stitt, Frank	Cullman—Cullman
Stock, R. P.	Childersburg—Talladega
Stockton, F. E.	Birmingham—Jefferson
Stone, J. J.	
Stone, J. T	
Stone, S. G. Stough, W. V.	
Stovall, H. C.	Pinckard—Dale
Street, T. H.	Alexander City—Tallapoosa
	Florence—Lauderdale
Strock, C. S.	Verbena—Chilton
Stuart, W. W.	Berlin—Dallas
Stubbins, S. G	Birmingham—Jefferson
Stuteville, Ethel .	
Suggs, S. D.	
Summers, W. P	Toney—Madison
Sumner, I. C.	
Sweeney, D. P. B.	Birmingnam—Jefferson
Talley, D. F.	Birmingham—Jefferson
Tankersley, Ernest	Samson—Geneva
Tankersley, James	Prattville—Autauga
Tankersley, James Tankersley, William	Hope Hull—Montgomery
Tarwater, J. S.	Tuscaloosa—Tuscaloosa
Taylor, C. H. Taylor, E. E.	Bankhead—Walker
Taylor, G. M.	Crienton—Mobile
Taylor, G. M.	Prattville—Autauga
Taylor, J. L. (S.)	T evington I audordale
Taylor, J. L. (S.) Taylor, Richard V., Jr.	Mobile—Mobile
Taylor, T. F.	Tuskegee—Macon
Taylor, T. F. Taylor, W. R.	Town Creek—Lawrence
Teagarden, E. J.	Decatur—Morgan
Teague E B Jr (S)	Talladega—Talladega
Teasley, G. H. (S.)	Athens—Limestone
Terhune, S. R. (S.)	Birmingham—Jefferson
Terrill, E. C.	Mobile—Mobile
Terrill, J. W.	Ensley—Jefferson
Terry, L. L. Thacker, V. J.	Sylacauga—Talladega
Thacker, V. J.	Dotnan—Houston
Theford, J. D. Thigpen, C. A.	Montgomery Montgomery
Thigpen, F. M. (S.)	Montgomery—Montgomery
Thomas, A. E.	Montgomery—Montgomery
Thomas, B. F. (S.)	Auburn—Lee
Thomas, E. M.	Prattville—Autauga
Thompson, Holland	Montgomery—Montgomery
Thompson, J. A.	Pine Apple—Wilcox
Thompson, W. A.	Citronelle—Mobile
Thorington, T. C.	Montgomery—Montgomery
Thrower, B. F.	Enterprise—Coffee
Thuss, C. J.	Birmingham—Jefferson
Thuss, W. G.	
Tillman, J. S.	
Timberlake, Landon (S.)	Conova Conova
Tippins, H. K	Hartford—Geneva
Tisdale, W. C.	Mt Vernon—Mobile
Toole, A. F.	Talladega—Talladega
Towns, T. M.	Talladega—Talladega Oneonta—Blount
Townsend, J. M. (S.)	Birmingham—Jefferson
Trammell, E. L.	Dutton—Jackson
Trapp, W. R.	Tuscumbia—Colbert
Treherne, A. J. (S.)	Atmore—Escambia
Trice, D. H.	Boligee—Greene
Troje, O. R.	Fairfield—Jefferson
Trucks, J. F. (S.) Trumper, Abraham	Birmingham—Jefferson
Tucker F W	
Tucket, E. W.	ranfield—Jefferson

Name	Town and County
Tucker, J. S	Dixiana—See Bibb
Turlington, L. F	Birmingham—Jefferson
Turner, W. H.	Dothan—Houston
Tyler, R. E.	Birmingham—Jefferson
Tyler, R. E. L.	'Tuscaloosa—Tuscaloosa
Underwood, A. J.	Spruce Pine—Franklin
Underwood, F. R.	Red Bay—Franklin
Underwood, N. P	Russellville—Franklin
Underwood, O. O.	Phil Campbell—Franklin
Underwood, S. S.	Birmingham—Jefferson
Ussery, G. C.	Roanoke—Randolph
Ussery, J. A.	Courtland—Lawrence
Vance, J. G.	Birmingham—Jefferson
Vandiver, H. G.	. Princeton—Jackson
Van Sant, J. W.	Piedmont—Calhoun
Van Sant, T. E. (S.)	. Piedmont—Calhoun
Van Wezel, Norman	Montgomery—Montgomery
Vaughan, A. E.	Geneva—Geneva
Venning, E. W.	Guntersville—Marshall
Waddell, J. R.	Rogersville—Lauderdale
Wainwright, S. P. (S.)	Birmingham—Jefferson
Walden, J. D.	Florence—Lauderdale
Waldrep, A. C.	Red Bay—Franklin
Waldrop, A. M	Jasper—Walker
Waldrop, R. W.	
Walker, A. A.	Birmingham—Jefferson
Walker, A. M.	Tuscaloosa—Tuscaloosa
Walker, H. O. Walker, H. S. J.	Huntsville—Madison Mobile—Mobile
Walker, J. E.	Dadeville—Tallapoosa
Walker, L. M.	Jasper—Walker
Walker, Moody	
Wall, Conrad	Forest Home—Butler
Wallace, A. D	Plantersville—Dallas
Wallace, G. O.	Clayton—Barbour
Wallace, S. H.	Birmingham—Jefferson
Walls, J. J.	_ Alexander City—Talladega
Walsh, G. F.	Fairfield—Jefferson
Walton, Mary Ward, H. S.	Opelika—Lee
Ward, J. A.	Birmingham—Jefferson Birmingham—Jefferson
Ward, W. R.	Birmingham—Jefferson
Warren, C. M. (S.)	Jackson—Clarke
Warren, T. A.	Auburn—Lee
Warren, W. E.	Ensley—Jefferson
Warrick, G. W. (S.)	Birmingham—Jefferson
Warrick, W. D. (S.)	Birmingham—Jefferson
Warwick, B. B.	Talladega—Talladega Talladega—Talladega
Washam, Marvin	Opp—Covington
Watkins H S	Coal Valley—Walker
Watkins, J. Harold (S.)	Montgomery—Montgomery
Watkins, M. A.	Coal Valley—Walker Montgomery—Montgomery Birmingham—Jefferson
Watkins, M. L.	Glenwood—Crenshaw
Watkins, R. S.	Phenix City—Russell
Watson, Jerre	Anniston—Calhoun
Watson, J. A.	Springville—St. Clair Georgiana, RFD—Butler
Watson, R. H.	Georgiana, RFD—Butler
Watterston, Charles	Birmingham—Jefferson
Watwood, J. A. Weatherford, Z. L.	Union Grove—Marshall
Weathington Lee	Guntersville—Marshall
Weaver, F. C.	Anniston—Calhoun
Weil, C. K. (S.)	Montgomery—Montgomery
Weidner, G. L.	Elba—Coffee
Weiner, Harry (S.)	Birmingham—Jefferson
Welch, O. W. (S.)	Huntsville—See Jefferson
Welch, S. H.	BirminghamJefferson
Weldon, H. S.	Lanett—Chambers
Weldon, J. M	MohileMohile
West, O. T.	Fairfield—Jefferson Montgomery—Montgomery
Wheeler N. A	Montgomery—Montgomery Lafayette—Chambers
	Lutay Cite—Citambers

Name	Town and County
Wheeler, N. A., Jr. (S.)	
Whetstone, A. K.	
Whigham, A. L.	Newville—Henry
Whitaker, J. E.	Huntsville—Madison
White, A. L	Thomasville—Clarke
White, A. M	Hartselle—Morgan
White, M. S.	Hamilton—Marion Mt. Andrew—Barbour
White, R. L.	Mt. Andrew—Barbour
White, W. E. (S.) Whitehead, F. F.	Anniston—Calhoun
Whitehead, V. E.	Blountsville—Blount Blountsville—Blount
Whiteside H B	Ohateboo Calboun
Whiteside, J. M.	Ohatchee—Calhoun Lakeland (Fla.)—See Calhoun
Whiteside, M. S.	Cullman—Cullman
Whitlock, H. E.	Tuscumbia—Colbert
Whitman, C. R.	Tuscumbia—Colbert
Whitney, O. H.	Carbon Hill-Walker
Wickliffe, T. F.	Jasper—Walker
Wiesel, B. H.	Tuscaloosa—Tuscaloosa Madison—Madison
Wilov C C	Madison—Madison
Wilkerson A F (S)	Birmingham—Jefferson Marion—Perry
Wilkerson, W. W.	Montgomery—Montgomery
Wilkinson, D. L.	Birmingham—Jefferson
Wilkinson, H. B	Montgomery—Montgomery
Wilkinson, J. E. Jr.	Prattville—Autauga
Wilkinson, J. G.	Montgomery—Montgomery Montgomery—Montgomery Birmingham—Jefferson Montgomery—Montgomery Prattville—Autauga Cottonwood—Houston Prowderly—Jefferson
Williams, G. N	Linden—Marengo Birmingham—Jefferson
Williams, H. B. (S.)	Birmingham—Jefferson
	Jacksonville—Calhoun Fairfield—Jefferson
Williams, J. R.	Selma—Dallas
Williams K R	Hartford Conous
Williams, W. C.	Bridgeport—Jackson
Williamson, Byrn	Bridgeport—Jackson Birmingham—Jefferson
Williamson, E. O.	Gurley—Madison Bessemer—Jefferson
Williamson, George William	Bessemer—Jefferson
	New Orleans—See Jefferson
Wilson, Cunningham	Birmingham—Jefferson
	Fyffe, Rt. 2—DeKalb Birmingham—Jefferson
Wilson J. D. (S.)	Birmingham—Jefferson
Wilson, J. L.	Birmingham—Jefferson Hackleburg—Marion
Wilson, J. M.	
317:1 T 317	Mobile—Mobile
Wilson, J. W	Mobile—Mobile
Wilson, L. E.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson
Wilson, O. E.	
Wilson, O. E. Wilson, R. K.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D.	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. G. (S.) Woodall, P. S. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Birmingham—Jefferson
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. G. (S.) Woodall, P. S. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Birmingham—Jefferson
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. G. (S.) Woodley, L. S. (S.) Woodruff, G. G. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Camp Hill—Tallapoosa Birmingham—Jefferson Andalusia—Covington Anniston—Calhoun
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. G. (S.) Woodley, L. S. (S.) Woodruff, G. G. (S.) Woodruff, G. G. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Camp Hill—Tallapoosa Birmingham—Jefferson Andalusia—Covington Anniston—Calhoun Tuscaloosa—Tuscaloosa
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. G. (S.) Woodley, L. S. (S.) Woodruff, G. G. (S.) Woodruff, L. H. Woods, A. W. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Camp Hill—Tallapoosa Birmingham—Jefferson Andalusia—Covington Anniston—Calhoun Tuscaloosa—Tuscaloosa Birmingham—Jefferson
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. G. (S.) Woodley, L. S. (S.) Woodruff, G. G. (S.) Woodruff, L. H. Woods, A. W. (S.) Woods, T. B. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Camp Hill—Tallapoosa Birmingham—Jefferson Andalusia—Covington Anniston—Calhoun Tuscaloosa—Tuscaloosa Birmingham—Jefferson Dothan—Houston
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. D. Wood, W. D. Wood, W. G. (S.) Woodruff, G. G. (S.) Woodruff, G. G. (S.) Woods, T. B. (S.) Woods, T. B. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Camp Hill—Tallapoosa Birmingham—Jefferson Anniston—Calhoun Tuscaloosa—Tuscaloosa Birmingham—Jefferson Dothan—Houston Birmingham—Jefferson
Wilson, O. E. Wilson, R. K. Wilson, W. E. (S.) Wimberly, G. B. Windham, L. A. Windham, S. W. (S.) Winn, L. M. (S.) Winslow, R. C. Winters, H. H. Wise, I. M. Wiygul, C. H. Wood, A. A. (S.) Wood, F. R. Wood, G. L. Wood, J. W. Wood, W. D. Wood, W. G. (S.) Woodall, P. S. (S.) Woodruff, G. G. (S.) Woodruff, L. H. Woods, A. W. (S.) Woods, T. B. (S.) Woods, T. B. (S.) Woods, T. B. (S.) Woods, T. B. (S.)	Mobile—Mobile Tuscaloosa—Tuscaloosa Birmingham—Jefferson Birmingham—Jefferson Montgomery—Montgomery Russellville—Franklin Reform—Pickens Luverne—Crenshaw Geneva—Geneva Birmingham—Jefferson Sylacauga—Talladega Tuskegee—Macon Mobile—Mobile Pratt City—Jefferson Mobile—Mobile Heflin—Cleburne Andalusia—Covington Hanceville—Cullman Camp Hill—Tallapoosa Camp Hill—Tallapoosa Birmingham—Jefferson Andalusia—Covington Anniston—Calhoun Tuscaloosa—Tuscaloosa Birmingham—Jefferson Dothan—Houston Birmingham—Jefferson Birmingham—Jefferson
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RHEUMATIC INFECTION IN CHILDREN

C. KERMIT PITT, M. D. Decatur, Alabama

In discussing rheumatic infection in children, I shall not presume to recite all the manifest symptoms of rheumatism, chorea, and heart disease but shall attempt to call attention to the importance of rheumatic infection to the physical well-being of this nation. In addition I shall mention some of the minor and less commonly recognized signs of the rheumatic state, as well as review the newer trends in prophylaxis.

The medical profession, and even the general public, is well aware that heart disease is America's leading cause of death. Less commonly realized is the fact that of all heart deaths 40 per cent are rheumatic in origin. In the United States at the present time there are a million people with rheumatic heart disease. Of these, 40,000 die each year. The average age at death is 30 years, but one-third of the deaths occur before the age of 20 years. It is commonly believed that rheumatic fever is much less common in the South than in the North. It is less common, but the difference is not so great as to make the problem insignificant in southern climates. In Alabama, rheumatic fever and rheumatic heart disease kill six times more people than infantile paralysis. Each year they kill more children between the ages of 5 and 14 years than measles, diphtheria, scarlet fever, and whooping cough combined. Even in the tropics the rheumatic state is being found much more often in recent years. In 1931 a cardiac and rheumatic division was organized in the Institution for Pediatrics in Buenos Aires. Its present director, Dr. A. Pugilisi, recently

reported some significant facts. During the first ten months of 1940, 225 rheumatic children were examined. Of these, only six were foreign born. The age limit varied between 3 and 16 years. Sixty-seven (67) per cent presented evidence of heart disease. Of the 225 children examined, 47 parents gave a history of rheumatism and 25 parents had rheumatic heart disease. Among 3,371 clinic records from the pediatric ward of a San Jose Hospital, Costa Rica, Carrillo encountered 22 cases of rheumatic fever. The incidence of mitral stenosis in 1,000 autopsies performed in the same hospital during the five years prior to May 1941 was 1.01 per cent. These figures would tend to cast some doubt upon the foundation of a general belief that rheumatic fever is rare or non-existent in semitropical countries.

A problem as vast as rheumatic fever is of necessity a public health problem. If rheumatic fever were made a reportable disease, the general public would soon come to realize more of its importance. A few departments of health have seen fit to do this. In the fall of 1941 four states, California, Iowa, Michigan and Utah, required the reporting of cases of rheumatic fever. Recently the Cincinnati Board of Health added rheumatic fever to the list of reportable diseases. I trust that other health departments will rapidly follow this leadership and I should be proud to see Alabama among the first.

Etiology of rheumatic infection is still undetermined, though much careful and worth-while research has thrown a considerable amount of light upon the conditions under which it tends to arise. The fact has

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long been noticed that attacks and recrudescences tend to occur some days following a respiratory infection. Particularly in recent years evidence has accumulated which indicates that infections by the beta hemolytic streptococcus play a prominent role. Infections of the upper respiratory tract have been recorded as preceding rheumatic attacks in from 30 to 85 per cent of cases. Where such history is not available serologic evidence suggesting recent hemolytic streptococcic infection has been found whenever sought. According to Coburn, hemolytic streptococcic infections without subsequent rheumatic fever are followed in two weeks or less by a rise in the antistreptolysin titer, but when rheumatic fever occurs the antistreptolysin titer rises in the third week and remains high as long as the disease is active. Green determined antistreptolysin titers in the serum of 1,346 adolescent boys. The mean titer for the controls was 79; in the third or fourth week of scarlet fever it was 300; in hemolytic streptococcic pharyngitis the mean titer was 263; and in active rheumatic fever the mean titer was 444. The interpretation of these data is that the hemolytic streptococcus bears an important etiologic relationship to the rheumatic state. According to Coburn, heredity and environment combine to produce persons who do not handle hemolytic streptococcic infection in the normal manner. Their immune response to the primary infection is inadequate with the result that the cells of the reticulo-endothelial system become sensitized. Subsequent contact of antigen and antibody within the sensitized cells gives rise to an abnormal reaction leading to the characteristic inflammation of rheumatic fever. The more recent reports indicate that the promising work of the past few years on a possible virus etiology has led to disappointing results. A tendency for the rheumatic state to occur predominantly among the poorer classes has been repeatedly demonstrated. Cold, wet climates are associated with a higher incidence of the disease. Chilling of the body would seem to be the most important climatic factor. The seasonal incidence, higher in late winter and spring and lower in summer and fall, has been generally confirmed. Recent literature reflects the importance of heredity. From 25 to 50 per cent of rheumatic subjects have a familial history of the disease. The sexes are about equally affected though chorea occurs about twice as frequently in females. The greatest number of first attacks occur between the ages of 5 and 14 years. Seventy-five per cent of rheumatic fever, 98 per cent of chorea, and 70 per cent of rheumatic heart disease begin before the age of 20 years. The most common age for the onset is 7 or 8 years. The American Negro, in spite of his economic circumstances, seems to have a rather striking immunity.

The pathology of rheumatic fever is a subject with which you are not unfamiliar. The disease affects many organs and tissues, producing lesions both exudative and proliferative, and, as you know, manifesting themselves usually as polyarthritis, carditis, chorea or subcutaneous nodules. Skin lesions of various types occur during the active infection in from 5 to 10 per cent of cases. Erythema nodosum is not necessarily pathognomic of rheumatic infection.

The symptoms of the rheumatic state are protean, so much so that one might paraphrase and say "Know rheumatism and know medicine." The classic manifestations of migratory polyarthritis, chorea, mitral stenosis, and aortic insufficiency require no elaboration, but to the less commonly recognized patterns I should like to call attention. The tired child, losing weight, eating poorly, becoming pale, with indefinite muscle or joint pains should arouse suspicion. Unusual nervousness or choreiform movements deserve attention. A low-grade unexplained fever, persistent tacycardia, changes in disposition and recurrent epistaxis demand an explanation. A family history is important. Heart disease is the most common manifestation of the rheumatic state in childhood. The alert physician should make a presumptive diagnosis in the subclinical phase and should seek confirmation by all laboratory tests available until clinical disease appears or is disproved. At least threefourths of all rheumatic children present evidence of rheumatic heart disease; 50 per cent have polyarthritis; and 5 per cent cho-

The most important single laboratory test remains the sedimentation rate. It seems to be a reliable guide indicating the degree of activity, though, in my experience, the sedimentation rate may return to normal some weeks before a carefully taken temperature. Second, if not equal in importance to the sedimentation rate, is the total leukocyte count, which, being persistently increased above 10,000, may be indicative of subclinical activity even when the sedimentation rate is normal. Juster, in a group of ambulatory cardiac patients, has shown rheumatic infection to be present in several cases leading to progressive cardiac damage without the appearance of clinical manifestations of the disease. The subclinical periods of activity were recognized chiefly by the presence of persistent leukocytosis. Such activity is probably more common than generally realized. Among his group of rheumatics, Juster found evidence of 60 per cent more subclinical than manifest activity. His findings were somewhat substantiated by the fact that later 85 per cent of the cases developed clinical activity. A decreasing level of hemoglobin in the presence of a rapid sedimentation rate is added evidence of a persisting serious activity, but a rising level is favorable. The Weltmann reaction is still under investigation, but indications are that values are normal or increased in chorea but low in polyarthritis and carditis. Blood phosphorus is frequently low and may be of some assistance in early diagnosis.

The prognosis of the rheumatic state is the progress of rheumatic heart disease. Arthritis, though it may occur many times, leaves no permanent sequelae. Chorea is a self-limited disease and, if unassociated with heart disease, which it is in about 50 per cent of cases, rarely ends fatally or results in permanent injury. The story of rheumatic heart disease is vastly different. It is the scourge of childhood. Between the ages of 15 and 24 years only tuberculosis causes more deaths in the United States. The earlier the onset of the infection the more serious is the outcome. One attack of rheumatic fever predisposes to another, reducing rather than increasing immunity. When we realize that most primary attacks occur between the ages of 5 and 14 years and that more than two-thirds of these develop heart disease we see the seriousness of the problem. Over a period of 15 years Cohn and Lingg observed 3,129 patients with rheumatic heart disease until the death of each. The sexes were involved in equal numbers and the average age at onset of the heart disease was about the same, 5 to 15 years. The mean duration of the disease before death was 13 years but 50 per cent of the patients died within nine years of the onset. The older the patient at the onset of the disease the greater was life's expectancy. When rheumatic heart disease began in childhood 80 per cent died before the age of 20 years. Among Hedley's 542 fatal cases, 50 per cent died in less than 10 years. In discussing the seriousness of rheumatic heart disease it may be well to mention the prognostic value of rheumatic nodules. It is now generally recognized that these subcutaneous nodules are pathognomonic of the rheumatic state and add significantly to the gravity of the prognosis. Whenever they appear they indicate the presence of a serious cardiac involvement. These nodules occur in from 5 to 10 per cent of all rheumatic children, and are particularly prone to occur when the illness is protracted.

The mainstay of rheumatic therapy continues to be rest, which lessens the cardiac load. It is important that the parents and the patient, if he is old enough, be carefully and fully informed as to the gravity of the situation. The nature of the disease should be described in full with its complications and its tendency to smolder subclinically and recur. They must be willing to cooperate completely through long periods of treatment. They must be informed as to the limited therapeutic means available so that they may not become too impatient after protracted weeks of bed rest. As you know, salicylates are almost specific when given in sufficient doses for joint pains and pyrexia. Salicylates do not affect the fundamental course of the disease. Vitamins, including vitamin C, exert no specific therapeutic effect on this disease. It is important that patients be given liberal diets, well balanced, and including vitamins. Anything increasing the general well-being of the patient should be beneficial. Chorea in its milder form is a self-limited disease and requires little, other than rest and sedation, for control, but because of the frequency with which it is complicated by heart disease patients with this manifestation of the rheumatic state should be kept strictly in bed. The more severe cases of chorea are frequently treated with fever therapy. In the treatment of rheumatic heart disease the first aim is to give the heart as much rest as possible. To this end complete bed rest is imperative. Since heart disease occurs in most, if not all, children who suffer rheumatic infection, any child who has rheumatic fever in any form should be considered to have heart disease and treated accordingly until every sign of activity has disappeared. Everything previously said about the treatment of rheumatic fever applies even more severely when heart disease is present. Sulfanilamide has not proved of value in the treatment of the active forms of the rheumatic state. There is evidence that such use may be actually harmful. A discussion of the treatment of congestive heart failure would be too involved for a paper of this type.

It is generally thought, and probably with some degree of truth, that rheumatic attacks and recrudescences are less common in the warm southern climates than in the colder northern ones. A group of rheumatic children removed from New York to Porto Rica developed no recurrence during a winter there, though the recurrence rate returned to the expected level when the children were brought back to New York. These impressions and these data seem less convincing as increasing reports of rheumatic fever come to us from tropical countries. Even granting the beneficial effect of semitropical and tropical climates, one can easily see that economic factors would limit climatic prophylaxis to a favored few least likely to require it. Recently Coburn and Moore reopened the question of the value of salicylates in preventing rheumatic infections. Noting the effectiveness of salicylates in preventing serum sickness and studying the in vitro interference of antigen antibody precipitation by salicylates, they reinvestigated the application of salicylate prophylaxis in rheumatic children living in the tenements of New York City. Their study extended over a two-year period and included 186 young rheumatic subjects. Forty-seven of these patients were given 4 to 6 grams of salicylates daily during and for four weeks following attacks of hemolytic streptococcic pharyngitis. The remaining 139 rheumatic subjects were used as controls. Of the 47

treated prophylactically, only one developed clinical rheumatic fever. Of the controls, 74 developed rheumatic attacks. In attempting to prevent the recurrence of a disease so devastating as rheumatic fever every effort should be made to increase the patient's well-being. His diet should be adequate in all respects. In the past a great deal has been said about tonsillectomies in the prevention of rheumatism. The guestion has not been settled. Tonsillectomized patients develop rheumatic fever and recurrences of rheumatic fever, but it is possible that they suffer fewer attacks and less heart damage than those who retain their tonsils. If there is doubt as to the advisability of tonsillectomy, the patient should be given the benefit of the doubt. After eight years of immunizing 101 ambulatory patients with rheumatic heart disease with graduated injections of hemolytic streptococcus filtrate, Wasson and Brown report a striking reduction in rheumatic recurrences and decided improvement in health. They feel that the method offers promise.

The brightest spot on the horizon of rheumatic prophylaxis is the encouraging results recently obtained from sulfanilamide. Since 1936 several hundred rheumatic individuals have been treated prophylactically through more than 700 person-seasons with a recurrence rate of less than one per cent. A person-season is one person treated for one season, usually from October to June. Following reports from abroad in 1935 and 1936 concerning the protective effect of small doses of sulfanilamide against beta hemolytic streptococcus infections in mice, several investigators began trying to prevent rheumatic occurrences by protecting rheumatic subjects against hemolytic streptococcus infection with small daily doses of sulfanilamide. Since 1936, Thomas and others of Johns Hopkins Medical School have given sulfanilamide 114 person-seasons; Coburn and Moore of New York, 189 personseasons; Stowell and Button of New York, 46 person-seasons; Chandler and Taussig of Baltimore, 41 person-seasons; Kuttner of New York, 108 person-seasons; Hansen at University of Minnesota, 78 person-seasons; and workers at the Bellevue Children's and Adolescents' Clinics, 150 person-seasons. Among this number there have been 7 recurrences, an incidence of less than one per

cent. Control groups developed recrudescences in from 10 to 35 per cent of cases. The results of these studies compose an impressive body of evidence in favor of the value of sulfanilamide in the prevention of this most serious disease of childhood. The dosage of the drug has varied somewhat with each group of investigators. Reactions have been milder and results as good when the smaller doses were used. Ten grains twice a day for adolescents and older children would seem to be adequate. For the most part, reactions have been mild, though Stowell and Button have reported one death from agranulocytosis in a 12-year old boy who had received six-tenths of a gram of sulfanilamide three times a day for 29 days. He did not return for a check-up as instructed. A number of the investigators have observed a gradual lowering of the total leukocyte count during the first weeks of treatment with subsequent increase to normal without discontinuing the drug. Stowell's and Button's fatal case prompted Thomas to review all available reports of agranulocytosis following sulfanilamide administration. From reports here and abroad she was able to collect only 15 fatal cases. When we realize that sulfanilamide has been used since 1937 to treat hundreds of thousands of patients suffering from many kinds of diseases, 15 fatalities do not appear startling. All of the 15 fatalities occurred between the second and the seventh week of therapy so that one may conclude that if the blood is carefully watched during this period the danger is small. Total white blood counts and hemoglobin determinations should be done weekly during the first four to six weeks of treatment. Thereafter, occasional blood studies would seem to be sufficient. Because rheumatic attacks may recur in any season of the year, Thomas feels that sulfanilamide should be given prophylactically throughout the year without intermission. All workers agree that, to be effective, the drug must be given for a period of five or more years. The immunity produced by sulfanilamide lasts only during the time the drug is administered. In view of the seriousness of rheumatic fever and the hope which sulfanilamide seems to offer, I believe that patients should be treated with small daily doses for a period of years. Such prophylaxis seems to offer

the only real hope for controlling rheumatic heart disease in this country. I believe, with Thomas: "The risk entailed in giving sulfanilamide seems so much less than the chance of serious rheumatic heart disease developing if treatment is withheld that I think we must accept that risk, and, after proper precautions are taken, disregard it in order to treat the rheumatic patient to the best of our ability."

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Eyestrain—The relief of eyestrain and the prescription of glasses is all too often treated as a matter of routine, when, in reality, it is a medical problem. Aside from the errors of refraction, it should be interpreted as an impairment of function, frequently of important diagnostic value. This condition may be manifested by headache, nervousness, irritability, blurring of vision, blinking, itching and difficulty in getting along in school.—Haik, New Orleans M. & S. J., July '43.

THE DIAGNOSIS OF BRAIN TUMOR

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The diagnosis of brain tumors is not a difficult problem provided the medical profession, the physician whom the patient first consults, is conscious of one fact: that brain tumors occur far more frequently than is generally thought. Earlier diagnosis is perhaps the only means left to better the mortality rate in this serious condition, for there is a vast difference in the surgical handling of an early tumor and one in which marked edema of the brain is to be contended with, as well as the tumor itself. Unfortunately, about 50 per cent of brain tumors are cancerous, but there remains 50 per cent of benign tumors, a large percentage of which good surgery may place back in their normal social and economic status if they reach the surgeon before irreparable damage is done to vital and important brain structure from prolonged pressure.

Probably the best manner to present the sequence of symptoms occurring in brain tumors is to relate briefly the histories, as obtained in actual cases of tumors that we have encountered in various areas of the brain. The chronologic sequence of symptoms is important, because the first symptoms will produce complaints referable to the actual site of origin; whereas, as the tumor grows, symptoms will be referable to neighborhood structures and then to more distant structures, due to interference with blood supply by pressure on the vessels adjacent to the growth that may supply distant areas. Lastly, with certain exceptions due to anatomic reasons, the signs of a general increase in intracranial pressure will appear. The diagnosis should be made long before this occurs.

Case I. The first case is that of a patient, a white male aet 45, with the following story: He had not been feeling well for several months but he could not describe his feelings by any specific complaint other than "he did not feel right and nobody could find anything the matter with him." He had recently been in a hospital for study and the findings were all reported negative. While taking the patient's history, out of a

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clear sky he asked, "Doc, how would you like to make a million dollars?" (The patient was an ordinary laborer.) He stated that he had made a million dollars once but "they had taken it away from him." These grandiose remarks were the only thing of interest in the patient's story, except a tendency to joke about everything, and a feeling of unconcern over this peculiar, indescribable way he felt.

Examination of this man was productive of no findings except on ophthalmoscopic examination he had moderate choking of both discs. The history of the above mental changes combined with papilloedema and otherwise negative neurologic findings justified ventricular air studies which furnished evidence to justify the diagnosis of left frontal lobe tumor. This was confirmed at operation and a benign tumor weighing 135 grams was removed from the left frontal fossa.

Case II. The second case is that of a young white girl aet 17, who was referred by Dr. C. G. Laslie of Montgomery. The story briefly was that she had had a generalized convulsive seizure 7 years previously. She was well then until about 18 months later when she had a second such episode. From then on she had a seizure about once a year until the year prior to admission when they became more frequent, and during the 6 months before admission she had four seizures. It was only during the latter period that she had any other symptoms, and they consisted of a transitory feeling of numbness over the entire left side of the body for a few moments prior to each seizure, and a headache of gradually increasing severity. It was the headache that really forced her in for examination.

Examination revealed two things of interest: bilateral choking of both optic discs and blindness in the temporal field of left eye and the nasal field of the right—a left homonymous hemianopsia. These two findings, together with the history of convulsive seizures and transitory subjective sensory disturbances on the left side, formed the basis for a diagnosis of a right parieto-temporal lobe tumor. Operation confirmed the

diagnosis and a tumor weighing over 200 grams was removed from this area. This proved to be a very rare tumor called ganglio-neuroma. Within 6 months following the operation the patient made a general average of over 90 in her high school studies and in addition earned a scholarship in a state-wide piano contest.

Case III. A young white man who, over a period of five years, had been undergoing changes in his facial appearance, hands and feet, characteristic of acromegaly. During the year prior to admission he developed bitemporal headaches of moderate degree and he noticed his vision was not so good. As the latter began to fail he consulted an eye specialist who found that he had practically no vision in either temporal fieldbitemporal hemianopsia. At this time an x-ray of the skull showed the sella turcica to be greatly enlarged. These findings are characteristic of a tumor of the pituitary gland exerting pressure on the optic chiasm, as well as producing characteristic body changes due to a dysfunction of the pituitary gland. The tumor was removed and the patient has been at his preoperative occupation for over 5 years.

Case IV. By contrast, another case of pituitary tumor is presented, not accompanied by acromegalic changes. This patient's story is rather brief in that his only complaint was bitemporal headache, growing progressively more severe over a period of 18 months. His vision began to fail and he consulted Dr. L. G. Brownlee who found primary optic atrophy with complete bitemporal hemianopsia, and immediately referred him with a diagnosis of pituitary tumor. X-ray films of the skull showed a greatly enlarged sella turcica. This man's visual fields returned to normal and he has been engaged in his preoperative occupation for 4 years.

Case V. This case is presented, amongst other reasons, to emphasize the importance of ventricular air studies in the diagnosis and localization of brain tumors. As you all know, our guest Dr. Dandy, first described ventriculography in 1918. It has been the most valuable contribution ever made in neurologic localization. This history is quite involved in that he had had two operations in which the tumor was not found prior to localization by ventriculography. Begin-

ning in 1935 he began to have bitemporal headaches, which were said to come on rather suddenly and subside just as quickly. By 1937 the headaches were of great severity and he had become mentally dull and sluggish. A diagnosis of pituitary tumor was made elsewhere and he was operated upon. The operator's notes at that time state that "the chiasmal region was exposed, a tumor was actually seen, but due to serious hemorrhage the procedure was discontinued." Strange enough, the patient showed some improvement following this procedure, but 2 years later, 1939, the symptoms had returned, markedly increased. On admission at this time the patient was in a semistuporous condition, though the general condition was good.

In view of the above operative findings the operative approach was planned via the previous procedure, but when the chiasm was adequately exposed no tumor could be seen. In spite of all this meddling the patient's condition was none the worse, and a short time later ventriculography was finally done.

Immediately following this, the third operation was done and a colloid cyst of the III ventricle, completely blocking the foramen of Munro, was easily removed.

In reviewing the errors in this case, the first diagnosis was made simply because the sella turcica was greatly enlarged. This emphasizes the fact that prolonged pressure from a blocked III ventricle can cause enlargement of the sella, perhaps not in the characteristic ballooning shape as does a pituitary tumor but nevertheless enough to lead one astray if all the factors are not considered.

The patient recovered after a very stormy convalescence.

Case VI. The next case is that of a little girl aet 8. Eighteen months before admission she began to vomit practically every day. Soon after this she began to have headaches. These symptoms were not constant, but recurred at increasingly frequent intervals, and a little later there was a marked change in the child's gait, in that she staggered like a drunken person and had a tendency to fall to the left.

On admission to St. Vincent's Hospital in September 1940, the following signs were observed:

- 1. Bilateral choked discs, rather advanced.
- 2. Horizontal nystagmus.

3. Instability of gait and station with a tendency to deviate and fall to the left.

- 4. Incoordination, manifested by inability to place the finger to the nose—more marked on the left.
- 5. Loss of muscular tone in the extremities. The left arm was very ataxic and deviated markedly from the horizontal position when outstretched, and also offered less resistance to displacement than the right.

This history and these signs were conclusive evidence that this little patient was suffering from a tumor of the cerebellum, probably on the left side.

Operation disclosed this to be true. The tumor was a cystic astrocytoma, which is a glioma of a low degree of malignancy that does not recur if the intracystic nodule, characteristic of this type of tumor, is removed. It was possible to accomplish this in this case. On January 30th, the patient reported that she had been promoted to the senior fourth grade—aet 9—having made up for the time lost during her illness.

Case VII. The last case to be presented is of interest because of the rather definite sequence of symptoms and the grouping of signs to produce a syndrome—the syndrome of the cerebellopontine angle. The sequential development of symptoms in this type of tumor provides an excellent precedent as to how tumors in other localities should be studied because they too will provide a sequential story if the history is properly elicited.

The patient in question is an Italian woman aet 51. After being well all her life she gradually became aware of a noise in her right ear 4 years previous to admission. This was constant and gradually became very annoying to her. Her attention being attracted to her ear by the tinnitus, she noticed after a time that the hearing in that ear was gradually diminishing and she would occasionally have what she described as a "giddy feeling," an indefinite sort of feeling of dizziness. Along with this there was a feeling of discomfort in the back of her head and neck on the right side which she found could be relieved by holding her head toward the same side. Subsequently she began to stagger when she walked. This progressed until she had to brace herself when she attempted to walk. In the few weeks prior to admission she states that

the right side of her face felt numb and at times there was difficulty in swallowing, and often fluids would regurgitate through her nose. Finally she developed severe generalized headaches with occasional vomiting, and at that time she was referred for neurologic examination.

This revealed the following facts:

- 1. Head was held inclined toward the right.
- 2. Choked discs.
- 3. Nystagmus.
- 4. Diminution of feeling to touch over the right face, with absent corneal reflex.
- 5. Right facial weakness, peripheral in type; i.e., the entire face.
- 6. Almost complete loss of hearing in the right ear, with no reaction when the ear was irrigated with cold water.
- 7. Marked instability of gait, which was on a wide base. If not supported, patient would fall, always toward the right.

The above story and neurologic findings are typical of a tumor of the acoustic nerve, and compose the group of symptoms that produce the syndrome of the cerebellopontine angle tumors.

Operation confirmed the diagnosis. The capsule of a tumor the size of a walnut was incised and its contents curetted. All of the symptoms gradually disappeared, except the deafness which is permanent. For over two years the patient has been performing her usual household duties in comfort.

In summarizing then one may say the following:

- 1. The diagnosis of brain tumors is not difficult if one only recognizes the frequency of their incidence.
- 2. Early reference for neurologic study is then perhaps the only means now remaining which can further reduce mortality.
- 3. The most common symptoms the physician should be on the alert for are:
 - (1) Mental changes, varied in nature.
 - (2) Convulsive seizures.
- (3) Persistent and recurrent attacks of headache.
- (4) Visual disturbances—either diminution in acuity of double vision or half vision.
- (5) Persistent vomiting, particularly in children, for which no apparent cause is demonstrable.
 - (6) Instability of gait.

Thorough neurologic examination is a

painstaking task, but unless sufficient time and thought are devoted to it many tumors of the brain are going to be overlooked until the increase in intracranial pressure only adds further risk to an already hazardous procedure.

KIDNEY AND URETERAL COLIC UNASSOCIATED WITH CALCULUS

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The pain of kidney or ureteral colic is produced by the back pressure on the kidney parenchyma from any obstructing pathology wherein the outflow of the urine into the bladder is either acutely stopped or so impaired that the urine excreted by the kidney is in a greater volume than its escape into the bladder. The purpose of this paper is to emphasize some of the causes other than calculi which produce this condition; and call attention to the fact that kidney or ureteral colic which is alleviated by quickly administered medication—the patient having no knowledge of passing the stone or calculi subsequently—might have been due to some of these causes.

The severity of kidney colic symptoms are in proportion to the acuteness of the stoppage of the urinary outflow into the bladder and the volume of the urinary function of the kidney involved. The scope of the symptoms depends upon the location of the ureteral block. If the blocking is in close proximity to the kidney pelvis, the symptoms may be referred to the opposite side. Should the blocking be in close proximity to the bladder, the symptoms complained of are aggravated by urinary disturbances, as, for example, frequency and urgency of voiding. Typical symptoms manifest themselves, such as severe colicky pain accompanied by reflex symptoms of nausea, vomiting and abdominal distention; and, as the intrapelvic pressure increases, the patient presents an appearance as if in surgical shock with cold clammy perspiration, rapid small pulse, etc. In most cases this pain is referred downward along the course of the ureter to the corresponding testis in the male, or the labium in the female. In a few cases the pain is referred toward the inner aspect of the thighs and the gluteal region.

In a review of the literature it is found that during the last twenty-five years the percentage of calculi which are not shown by the x-ray has diminished rapidly from sixteen to almost zero. This is due in part to modern urologic and roentgenologic technique which can prove out calculi unless they are very small or in large individuals where no shadows would be seen on account of convergence of the x-rays. In such cases, if the calculi were not accompanying or associated with other pathologic changes, no obstruction with its resultant colic would be evidenced.

Where we have narrowing of the lumen of the ureter at any point we have interference of the hydrodynamics of the excretion of urine, and also a pathologic set-up where debris from any cause, inflammatory or otherwise, can lodge and in some cases block the urinary outflow causing kidney or ureteral colic, or the blocking of the urinary outflow could be caused by the narrowing of the ureter in itself.

In connection with the colicky attacks of pain which we term renal colic or ureteral colic it is necessary to bear in mind that there are a number of other conditions (a) of the urinary tract, (b) of the central nervous system, and (c) of the intraperitoneal viscera which can mask in nearly every respect the typical symptoms of a ureteral calculus.

In some cases of movable kidney we have a single or recurrent crisis due to kinking of the ureter and its resultant back pressure. In some of these cases torsion of the kidney pedicle is also present. This syndrome was first described by Dietl of Vienna, and is known as Dietl's crisis. Thrombosis or embolism of the renal vessels, though rare, is associated with ureteral colicky pain as one of its outstanding symptoms. Nephritis dolorosa is a time-honored clinical expression for a type of chronic focal glomerulone-

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phritis in which the most prominent symptom is pain which comes on as an intense attack of ureteral colic. The urine during these attacks may show a small quantity of albumen and a few casts associated with a decrease in kidney function. The symptoms are confined definitely to one side, though the pathologic process is most always bilateral. Blood clots or debris from epithelial exfoliation within the urinary tract due to vitamin A deficiency blocks the ureter in some cases with or without the assistance of congenital or acquired ureteral strictures or constrictions. Where we have pyelonephritis and ureteritis either singly or combined they are often accompanied by pain of a colicky nature; as also in seminal vesiculitis we find the ureter compressed by the inflammatory by-products which may or may not be accompanied by associated ureteritis at this point. This is due to the close proximity of the seminal vesicle to the intramural portion of the ureter.

It can be readily seen that an accurate diagnosis in cases presenting kidney colic is very difficult in some instances. All possible causes of the typical pain must be gone into and excluded before a diagnosis is reached. In most of these cases a painstaking history and a careful urologic survey, the details of which may appear relatively unimportant, may be the means of clearing the diagnosis. Location of, and time and mode of onset, together with a flat picture of the kidney, ureter and bladder, are wholly inadequate in any case except that of gross pathology. Nephrolithiasis is for the most part a symptom rather than a disease.

Pathology which assists in the formation of calculi in the urinary tract can be the cause of the blocking of the urinary outflow with its resultant kidney colic symptoms. In movable kidney the acute symptoms are relieved by establishing drainage from the involved kidney pelvis. This can be done by posture when this relieves the kinking of the ureter. Some cases are so severe that cystoscopy is indicated, with the passing of a catheter up the ureter past the kink in order for relief to be obtained. In nephritis dolorosa we must direct our therapy to improve the nephritic condition if the symptoms are to be relieved.

It is very plausible to believe that changes in the lumen of the ureter, or congenital narrowing of any portion of the ureter, result from blockage by the exfoliated epithelium lining the upper urinary tract when this exfoliation occurs as it does in vitamin A deficiency. This deficiency exists in some individuals even though vitamin A is taken in sufficient quantity because the source best assimilated varies in different individuals due to the complex workings of metabolism.

We wish to present the following cases:

Case I. A patient was sent in who required morphia to relieve his painful kidney colic the day before. In taking the history the patient stated he had had to be very careful what he ate for the past seven years because of gallbladder trouble which had been diagnosed, and he had received treatment for, intermittently during this seven-year period.

Cystoscopic examination: No. 6 F. catheters ascended readily and urine was collected from the bladder and both kidneys. Flat KUB with catheters in place was negative. Double pyelograms were negative. The bladder urine contained numerous epithelial cells, a few single pus cells, and was negative chemically. The urine from the right kidney was full of epithelial cells, some of which were held together in large clumps, and an occasional pus cell was present. The left kidney urine was full of epithelial cells but not as many large clumps as that from the right kidney, and an occasional pus cell was also found.

A diagnosis of vitamin A deficiency was arrived at. and over his protest that he could not eat this and that on account of his gallbladder trouble he was told he must eat everything. He was placed on vitamin A, 25,000 units night and morning, and in two weeks' time his change for the better was well advanced, and after a month's treatment he laughed at the silly dietary notions he had prior to consulting us, and was literally eating everything without any trouble to his gallbladder; and though he had had kidney colic requiring morphia at intervals over a three-year period, an interval of eighteen months is now present without any kidney or ureteral symptoms and there is only an occasional epithelial cell in his urine.

Case II. Another patient, aged 36, was inducted into the Army and remained in

the hospital with kidney colic the few days he was in the service before he was sent back home with a diagnosis of nephrolithiasis. According to his statement, x-rays were made before and after something was shot in his arm. He was referred to us and gave a history of having had hypodermics intermittently over a period of five years for kidney stones. He did not remember ever passing a calculus.

Cystoscopic examination: No. 6 F. catheters passed readily to each kidney. Flat KUB with catheters in place was negative. Urine was collected from the bladder and each kidney. Double pyelograms were made and duplication of pelvis was noted on either side. They were negative otherwise. Bladder urine contained numerous epithelial cells and many pus cells. The urine

from the right kidney was loaded with epithelial cells and many single pus cells; the urine from the left kidney contained large clumps of epithelial cells and many pus cells. His right-sided kidney colic which he was suffering with from the time of his induction into the Army until he was cystoscoped by us was relieved when the catheter ascended into his right kidney pelvis. This catheter was left indwelling for forty-eight hours and the patient was placed on 25,000 units of vitamin A night and morning. Six months have elapsed without symptoms, and the patient states that it is the first time in eighteen months that he has been free of attacks of kidney colic for so long an inter-

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THE USE OF SULFONAMIDES IN THE GASTROINTES-TINAL TRACT

HUGHES KENNEDY, M. D. Birmingham, Alabama

The sulfonamide compounds have played an important and spectacular role in medicine during the past six or seven years. The treatment of septicemia, pneumonia, meningitis, and gonorrhea has overshadowed the work done on the gastrointestinal tract. My attention was first called to the possibility of treating dysentery with sulfonamides in June 1939 when an infant critically ill with infectious diarrhea at the Children's Hospital made a rapid and spectacular recovery following the use of sulfapyridine. This case, along with several others, was reported by Welch, Meyer and Smith. In July and August 1939 I could not duplicate these results at the Hillman Hospital. However, since that time, numerous articles have appeared in the literature describing the successful use of sulfathiazole, with an occasional article advocating sulfapyridine. Reitler and Marberg² reported twenty

adults treated with sulfapyridine. They were better in twenty-four hours and had normal stools within forty-eight hours regardless of the day of disease on which treatment was instituted. All reports have not been quite so enthusiastic but do advocate the early use of sulfathiazole or sulfapyridine. On account of the lower toxicity, the former drug would appear to be preferable.

The treatment of dysentery by sulfonamide drugs was greatly stimulated by the advent of sulfanylguanidine, and later by the appearance of succinylsulfathiazole. The chief characteristic of these drugs is the low rate of absorption from the gastrointestinal tract, in spite of great water solubility. As a result, a heavy concentration can be maintained in the lumen of the large bowel but with a very low blood level. As will be shown later, succinylsulfathiazole enjoys certain advantages over sulfanylguanidine (sulfaguanidine).

Marshall³ reviews 371 cases of dysentery treated in the British Army in the Middle

Read before the Association in annual session, Birmingham April 20, 1943.

^{1.} Welch, S. H.; Meyer, J., and Smith, J. S.: Acute Bacillary Dysentery Treated with Sulfapyridine, J. M. A. Alabama 10: 198 (Dec.) '40.
2. Reitler, R., and Marberg, Kurt: Note on the

^{2.} Reitler, R., and Marberg, Kurt: Note on the Treatment of Acute Bacillary Dysentery with Sulfapyridine, Brit. M. J. 1: 277 (Feb. 21) '41.

^{3.} Marshall, E. K., Jr.: Sulfaguanidine as a Chemotherapeutic Agent in Intestinal Infections, Mississippi Doctor 20: 4, 1942.

East with sulfaguanidine. One hundred thirty-five (135) were the Shiga type. He reports as follows:

- (1) Increased feeling of well-being in twenty-four to forty-eight hours, with rapid relief of abdominal pain and tenesmus.
- (2) Fall in temperature and pulse in uncomplicated cases, often reaching normal in one to three days.
- (3) Remarkable reduction in stools; within five to six days one to two stools daily.
- (4) Rapid disappearance of blood from feces with slower disappearance of mucus.

Fatalities were due to late treatment or complications.

Edwards⁴ reports best results from sulfaguanidine if started early, although Lyon⁵ states good results regardless of the time. The recommended dosage is 0.05 gm. per kilogram of body weight as an initial dose, and the same maintenance dose every four hours until there are less than five stools in twenty-four hours. Then 0.05 gm. per kilogram every eight hours for three days. The blood level in children is usually 1-3 mgm. per cent. Toxic symptoms are rare. When they do occur, they are usually mild and clear up rapidly when the drug is discontinued. The toxic symptoms are similar to those found with the other sulfonamides: headache, nausea, skin rashes, fever, conjunctivitis, and possibly mild hemolytic anemia and microscopic hematuria. In the study of 300 cases, Lyon decided that it was perfectly safe to use sulfaguanidine in the home. Sulfaguanidine seems equally effective against the various dysentery organisms but exerts ltitle effect in typhoid fever or ulcerative colitis.

Succinylsulfathiazole is the newest drug and apparently has certain qualities superior to those of sulfaguanidine. It is definitely less toxic. There are only rare cases of dizziness, headache or loss of appetite. No hematuria or hemocytologic changes have been noted. Again, the blood level is low—0.5-1.5 mgm. per cent of the free drug and 1.0-2.5 mgm. per cent of the conjugated derivatives.

Poth, Chenoweth and Knotts⁶ successfully treated dysentery with succinylsulfathiazole regardless of whether the treatment was started early or late. The response was equally good whether small or large doses were used, 0.25 gm. to 1.0 gm. per kilogram divided into six equal doses. There were no toxic symptoms.

Succinylsulfathiazole has also found a place in large intestinal surgery. Following the use of this drug, the stools become semifluid and relatively odorless. There is no diarrhea but the patient may have two to four small gelatinous stools daily, containing more mucus than the normal stool. This is due to a high bacteriostatic condition in the intestinal tract. The drug acts chiefly on the colon and dysentery group of organisms, having little if any effect on typhoid, paratyphoid, alpha *Streptococcus fecalis* or *B. proteus*.

In preparing the patient for operation, a low residue diet is given. No liquid petrolatum is given and the minimum of cathartics is used. An initial dose of 0.25 gm. succinylsulfathiazole per kilogram of body weight is given followed by 0.25 gm. per kilogram daily, divided into six equal doses. In one to seven days, the coliform bacteria will fall from 10,000,000 to less than 1,000 per gram wet stool. The bowel will be empty and ready for surgery. Following the operation, the drug is resumed as soon as the patient can retain one ounce of warm water. It is continued for seven to fourteen days. There is little distention and gas pains are diminished. Poth⁷ reports fifty cases of large bowel surgery. There were no deaths following primary suture of the large bowel in thirty cases. Poth and others^{8, 9} state: "If at laparotomy, the bowel

^{4.} Edwards, Lydia B.: Sulfaguanidine in the Treatment of Bacillary Dysentery, South. M. J. 35: 38, 1942.

^{5.} Lyon, G. M.: The Chemotherapy of Bacillary Dysentery, U. S. Nav. M. Bull. 40: 601 (July) '42.

^{6.} Poth, E. J.; Chenoweth, B. M., Jr., and Knotts, P. L.: A Preliminary Report on the Treatment of Bacillary Dysentery with Succinylsulfathiazole, J. Lab. & Clin. Med. 28: 162 (Nov.)

^{7.} Poth, E. J.: Succinylsulfathiazole; Adjuvant in Surgery of Large Bowel, J. A. M. A. 120: 265, 1942.

^{8.} Poth, E. J.; Knotts, F. L.; Lee, J. T., and Inui, F.: Bacteriostatic Properties of Sulfanilamide and Some of its Derivatives. Succinylsulfathiazole, New Chemotherapeutic Agent Locally Active in the Gastrointestinal Tract. Arch. Surg. 44: 187 (Feb.) '42.

^{9.} Poth, E. J. and Knotts, F. L.: Clinical Use of Succinylsulfathiazole, Arch. Surg. 44: 208 (Feb.) '42.

of a dog which had received satisfactory succinylsulfathiazole therapy is found empty, the descending colon can be divided transversely through one-third of its diameter and the abdomen closed with the lesion ordinarily healing without the production of fatal peritonitis."

In this presentation no attempt has been made to give exhaustive statistics following the use of the various drugs. Instead, a brief outline has been given discussing the essential merits of the drugs.

SUMMARY

- 1. On account of the low toxicity and low blood concentration, sulfanylguanidine and succinylsulfathiazole seem to be the drugs of choice in intestinal infections of the dysentery type. Of these drugs, succinylsulfathiazole would seem to rank first.
- 2. Sulfathiazole and sulfapyridine appear to be equally successful in the treatment of dysentery but are little used on account of their relative toxicity. In certain cases where the tissues are invaded by the organisms these drugs should be more useful on account of the higher blood concentration.
- 3. A child with infectious diarrhea should immediately be given sulfanylguanidine or succinylsulfathiazole. If improvement is not obtained in forty-eight hours, sulfathiazole should be tried.
- 4. Obviously the usual dietary and supportive treatment, such as fluids, should be instituted. In certain cases vitamin B complex seems to hasten recovery.

Cesarean Section—It has been our experience that the regular and frequent instillation of a vaginal antiseptic, such as acriflavine or mercurochrome, into the vagina during labor adds to the safety of the operation. When the progress of labor is such that a cesarean section is anticipated, 1 ounce of 5 per cent mercurochrome is injected into the vagina every four hours with an aseptic bulb syringe. This procedure is routinely practiced before all such operations.

The sulfonamides may be placed in the potentially infected uterine cavity and wound. However, one should not expect them to prevent the development of a septicemia or peritonitis in the frankly infected uterus. That uterus should never be incised. Instead some other mode of delivery should be utilized.—Cron, $Wisconsin\ M$. J., $July\ '43$.

Medical Problems-In the national fulfillment of our altruistic objectives, it must be recognized that two essential provisions are required, namely, professional and financial facilities. It must also be recognized that the successful attainment of these objectives cannot be accomplished if in the implementation of any plan or proposal the professional facilities are subjugated to the authoritative management, traditionally dictated by political whimsy, of some legislative council controlling the financial provisions. These two provisions are interdependent and cannot be distinctly separated in approaching our objectives. The successful application of the former requires certain facilities supplied by the latter, which, in turn, can be guided intelligently only by professional knowledge. These vastly significant facts must be sincerely appreciated by all parties, both medical and non-medical, concerned with this problem in their approach to its solution.

It is necessary to realize that the establishment of one of these contemplated medical services does not sound the death knell of private practice of medicine. These two forms of medical service are not incompatible, and their consideration must not be regarded in the light of apostasy, but rather in the light of realism. They become incompatible only if in attempting their admixture certain undesirable ingredients are added. The problem is too difficult, the time is too short, and the stakes are too high for all concerned, to allow these factors to influence our actions. All efforts must be harmoniously combined and closely coordinated toward the elaboration of an intelligent program which will permit a democratic as well as a comprehensive medical service with equally high professional and ethical stand-

It should be clearly understood that this embraces the concept of existing freedom of thought and action in the exercise of our profession and our scientific pursuits. None is more keenly aware, none more fully cognizant than I, of the resultant stultification of the science and art of medicine which would be occasioned by any loss or curtailment of this freedom. Here is a principle which is more than an heritage-indeed, it forms the supporting foundation of the art of medicine and the guiding light of the science of medicine. It was freedom to think and freedom to express thought in speech and in writing unhampered by the fearful consequences of traditional or legislative authority that permitted medicine to progress to its present exalted position in the field of science, and it is absolutely essential in its continued advancement. It is a principle, therefore, which we can never relinquish.

Since the challenges confronting medicine will undoubtedly be multiplied as we approach the termination of this conflict and the commencement of the difficult reconstruction period, it becomes our responsibility and duty, with ever mounting importance and increasing urgency, to prepare to meet them now.—Rankin, J. Indiana M. A., July '43.

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ORAL VACCINE FOR THE COMMON COLD

"As is true of a number of virus diseases, the common cold acquires clinical and pathologic significance because of the secondary complications arising from superimposed bacterial pathogens. Since prophylactic immunization directed in this case towards the true virus itself is not at present attainable, attempts have been made to solve the problem by reducing the number or severity of the secondary complications by artificially increasing resistance to the potentially virulent bacteria of fthe upper respiratory tract. Vaccines of mixed bacteria administered by one route or another have been given experimental trials, but as yet the results reported have been of varying success." Thus do Siegel, Randall, Hecker and Reid¹ open their inquiry into this subject. They chose nurses and office workers of a visiting nurse service in New York City as the subjects during their studies. A total of 253 persons volunteered and 125 were in the test group and 128 in the control group. And the test period lasted for 210 days. "For purposes of immunization a commercial product composed of

heat-killed bacteria... was prepared in the form of capsules to be taken orally. The control group, on the other hand, was given capsules identical in appearance and containing the same ingredients without bacteria. Both types of capsules were distributed in the same kind of container labeled with identical directions for use . . ."

As to the results obtained the New York investigators tell us that "the evidence outlined in this report indicates that the oral administration of a commercially prepared vaccine of mixed killed bacteria as described above failed (1) to decrease the incidence of acute respiratory infections, (2) to reduce the severity or duration of such infections, and (3) to prevent secondary bacterial complications. A group of individuals observed for purposes of control ran remarkably similarly to those receiving vaccines. Thus, both control and inoculated groups had exactly the same number of colds, and there was no significant difference between the groups in the duration of symptoms and in the number and variety of complications following colds. These observations strengthen those already made by various investigators that contrary to fairly widespread medical and lay opinion so-called 'cold vaccines' are of questionable value as a prophylactic measure both against the common cold and its bacterial complications."

Soon after the devastating pandemic of "Spanish" influenza during the first World War many vaccines for subcutaneous or intramuscular injection began to appear on the market, backed by more or less extravagant claims. By and large the results obtained have been most disappointing, though some patients, and even a few physicians, maintain an inordinate belief in them. And, within the past few years, the oral preparations have come and are being tried out. How to evaluate the effectiveness of these vaccines is difficult but the New York observers have certainly been thorough and scientific in their approach to this problem and their negative findings will impress the judicious.

Like cancer, the common cold, and its complications, is the subject of much praise-worthy research and discussion but, like cancer again, progress is disconcertingly slow.

^{1.} Siegel, Morris; Randall, Marion G.; Hecker, Muriel D., and Reid, Mabel: A Study of the Value of Mixed Bacterial "Oral Cold Vaccine," Am. J. M. Sc. 205: 687 (May) 1943.

MEDICAL OFFICERS NEEDED FOR FEDERAL CIVILIAN WAR SERVICE

The critical shortage of physicians to engage in vital war work in the civilian branches of the Government continues. The great need for these men resulted in the announcing of a liberalized civil-service examination for Medical Officers in 1941. The Civil Service Commission has just revised and reannounced this examination.

The twenty optional branches under which doctors may apply range from general practice to aviation medicine. Those appointed will perform professional duties as doctors of medicine in active practice in hospitals, in dispensaries, or in the field or in rural areas; or in bureaus of the Government such as the Veterans Administration, Civil Aeronautics Administration, Public Health Service, and Food and Drug Administration. Doctors will also be used in industrial establishments under direction of the War Department.

Applicants for all grades must have received the degree of M. D. from an accredited medical school. Applicants for the Senior Medical Officer grade (\$5,228 a year)

must have had at least 5 years of appropriate medical experience; for the Medical Officer grade (\$4,428 a year), 3 years of experience in addition to a required interneship; and for the Associate Medical Officer grade (\$3,828) 1 year of interneship. The salaries quoted include overtime pay.

There are no written tests and no age limits. Persons now using their highest skills in war work should not apply for these positions. Appointments in federal positions are made in accordance with War Manpower policies and employment stabilization plans. Before a definite offer of appointment is made, eligibles are cleared through the Procurement and Assignment Service for Physicians, Dentists, and Veterinarians of the War Mapower Commission.

Persons rated eligible on the Medical Officer examination of 1941 need not file applications again unless they consider that they now possess qualifications for eligibility in a higher grade or different option.

Further information and application forms may be obtained at first- and secondclass post offices, Civil Service Regional Offices, and the Commission in Washington, D. C.

MEDICINE AND THE WAR

BURNS AND WOUND INFECTIONS IN AIR RAID CASUALTIES

The Medical Division of the Office of Civilian Defense has revised its pamphlet "Treatment of Burns and Prevention of Wound Infections" to incorporate new techniques that have been developed within the past year. The recommendations in this pamphlet are based on recent directions of the Committee on Chemotherapeutic and Other Agents and the Subcommittee on Burns of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. Originally drawn up by these committees for the armed forces, the recommendations have been modified to adapt them to the problems involved in the treatment of civilian casualties.

Recommendations for the use of sulfonamides are accompanied by the observation that these drugs must be used more cautiously in the treatment of civilian wounds

than is necessary in the care of military casualties, for the following reasons:

"The injured may include individuals of all ages and with various types of preexisting disease, instead of a selected group of healthy young males. The possibility of toxic effects is therefore greatly enhanced. Moreover, it is assumed that in civilian injuries, hospitalization will be possible in a relatively short time, whereas in military observations such is not always the case. This usually makes it possible to postpone all consideration of chemotherapy until the injured have been hospitalized. It is then possible to administer sulfonamides with better safeguards and to consider such contraindications as other pathological conditions or known sensitivity to individual drugs. The dangers of dehydration can also be better prevented or overcome under such circumstances."

In a discussion of intra-abdominal wounds

leading to perforation of the hollow viscera, the revised pamphlet advises sodium sulfadiazine as the drug of choice for parenteral administration, which is considered preferable to oral therapy during the first 48 hours. Sulfanilamide was recommended in the previous edition. Concentrated solutions of sodium sulfadiazine are not recommended for subcutaneous or intramuscular routes, but it is pointed out that weak solutions (0.5%) may be used with little danger of sloughing of the tissues.

Special emphasis is placed on the danger of giving sulfonamide drugs to a patient who is not voiding normally (over 1,000 cc. per day).

"Should circumstances require sulfonamide administration in the presence of inadequate urinary output, the urine should be watched for evidence of renal damage and the dosage of drug adjusted so that a blood concentration, as evidenced by daily determinations, not to exceed 10 mg. per cent, is maintained," the pamphlet warns. "If further diminution of the urinary output occurs, administration of the drug should be stopped immediately and fluids should be forced orally, if possible, and by means of glucose and water (5 per cent in sterile distilled water), intravenously if necessary. If anuria due to bilateral obstruction of the ureters develops, ureteral catheterization and lavage of the renal pelves may be required."

The emergency care of burns is outlined as follows:

"Whenever casualties with extensive burns can be admitted to hospitals without delay, and definitive treatment can be instituted promptly, morphine sulphate, onehalf grain, should be administered at the scene of the incident and no local therapy applied to the burned area except sterile gauze to exposed surfaces to prevent infection."

The most notable change in the OCD pamphlet is the withdrawal of the recommendation of the use of ointments or jellies containing tannic acid in the first-aid treatment of burns. The new advice given is that when definitive care cannot be carried out within two hours, the patient should receive sufficient morphine to relieve pain (not less than one-half grain, except in patients with lung and bronchial damage, the

very old or the very young); and the burned surfaces should be covered with sterile boric acid ointment or petrolatum over which one or two layers of gauze of fine mesh (44) is to be smoothly applied. Over this dressing thick sterile gauze or sterile cotton waste is to be placed and the entire dressing is to be bandaged firmly but not tightly. Substitution of jelly containing 5 per cent sulfathiazole in water-soluble base, which is supplied in the OCD carrying case A for Mobile Medical Teams, is permissible.

The discussion of definitive treatment of burns has been expanded to stress the necessity for administration of large amounts of plasma.

"In patients with severe burns, quantities up to 12 units or more may be required in the first twenty-four hours," it is pointed out. "To the patient in critical condition, plasma must be given rapidly (as much as 500 cc. in 10 minutes may be necessary) and not allowed to flow drop by drop. It must never be administered by any other than the intravenous route. Syringe injection may be used. If facilities for hematocrit determinations are available, the following general rule can be used for guidance regarding the amount of plasma required. For each point that the hematocrit is above 50 per cent cells, at least 100 cc. of plasma should be administered. If clinically satisfactory results are not obtained with this dosage, larger quantities should be given." A footnote points out that rapid administration of intravenous fluids may be dangerous to cardiac patients and that the physician's judgment will have to determine the amount as well as the rate of administration in such cases.

The pamphlet describes "open" and "closed" treatment for burns. The "open" treatment which is now considered the treatment of choice and is especially recommended for treatment of burns of the hands, face, feet, perineum and genitalia, consists essentially of the application of boric acid ointment or petrolatum, with pressure dressings. Such dressings can often be left in place 12 or 14 days.

The "closed" treatment, which is the tanning or eschar method, is particularly indicated in extensive "flash" or second-degree burns of the trunk. This method is recommended only if the following conditions are

present: (1) If not more than 24 hours have elapsed; (2) if the burned area has not been grossly contaminated; (3) if strict surgical asepsis is employed in the preparation of the burned surface, and (4) if coagulation is rapidly accomplished, i. e., by combined use of tannic acid and silver nitrate. The method of tanning is described as in the original edition of the pamphlet.

In the new directions, additional emphasis is placed on masking of both the patient and his attendants, in order to minimize the

danger of secondary infection.

HOSPITALS AND FOOD RATIONING

While the wartime need of conserving rationed foods is great, no hospital patient need suffer from inability to get foods required for his health, according to the Office of Price Administration.

The OPA is sending specific instructions highlighting this point to all local War Price and Rationing Boards, and to other OPA field offices. For several months, OPA and medical authorities have been studying the hospital problem with a view to developing a uniform procedure covering the granting of supplemental allotments for hospitals. Solution of the problem is believed near.

"In the meantime," OPA said, "a provision in the regulations (Section 11.6 of General Ration Order 5) should enable hospitals to obtain the necessary supplemental allotments so that no patients shall suffer from dietary deficiency. This provision gives local boards authority to grant such allotments to meet the dietary requirements of patients living in, and receiving care in, hospitals, whether or not such patients are on special diets.

"In determining the amount of the supplemental allotment of processed foods and the commodities covered by Ration Order 16, the local board will take into consideration the availability of fresh fruits and vegetables, unrationed substitutes such as poultry and fresh fish, and the physical facilities of hospitals to process and store such foods."

Administrative officers of hospitals had complained that local boards in some cases had confined the granting of supplemental allotments to situations covering patients on special diets.

"Section 11.6 of the ration order does not limit the granting of relief so narrowly," OPA explained. "No hospital patient need suffer from inability to get food because of rationing."

AMBULANCES FOR TARGET AREAS

Most American cities have insufficient ambulances to meet emergency demands in the event of an enemy air attack, said James M. Landis, Director of Civilian Defense, in announcing plans for distribution of 800 four-stretcher ambulance bodies to cities in target areas.

These ambulance bodies, when mounted on the chassis of used passenger cars to be provided by the city, will represent a major step in strengthening the Civilian Defense measures of American cities, Director Landis added.

Designed after extensive study, the OCD ambulance body is made of wood and non-critical materials. It can be mounted on the rear portion of the chassis of a Ford, Chevrolet or Plymouth four-door sedan, models 1939-41, after the part of the body behind the front seat has been removed.

The ambulances are roomy enough to carry four stretchers on built-in racks and still leave space behind the stretcher rows for an attendant to ride with the casualties and give necessary care enroute. The body has been approved by the Corps of Engineers of the Army.

"Use of four-stretcher ambulances will greatly increase the speed and efficiency with which persons injured in air raids or other major disasters can be transported to hospitals," Mr. Landis said. "Experience in this war has demonstrated that four-stretcher ambulances are essential for the prompt and orderly transportation of the large number of casualties which occur in a major catastrophe.

"At the present the Civilian Defense Emergency Medical Service in the majority of communities is relying chiefly on the one and two-stretcher ambulances available before the war and additional small vehicles as station wagons, panel trucks, and taxicabs which have been volunteered. It has been repeatedly demonstrated that use of this type of vehicle, with its limited carrying capacity, leads to serious traffic conges-

tion in disasters involving many casualties—thereby defeating its own purpose of speeding victims to hospitals. The four-stretcher ambulances will be parked at hospitals. Their availability day or night under the direction of the Chief of Emergency Medical Service will provide prompt and orderly service which will save many lives, not only in disasters caused by enemy action or sabotage but in any major catastrophe such as the Cocoanut Grove fire in Boston or a disastrous explosion in a war industrial plant.

"Commercial vehicles have been found by experience to be undependable," Mr. Landis said, "because at the time of need they are often in use or the drivers are not at hand. Large trucks, busses, and trailers have also been found to be unsatisfactory because they are not well sprung, thereby increasing the danger of surgical shock to the patient, and are difficult to maneuver under raid or emergency conditions."

The ambulance bodies will be distributed free of charge by OCD to selected commu-

nities, but because of the limited number available, will be sent only to cities in exposed areas—and then only after the city has notified OCD that the chassis on which to mount them will be furnished.

Mr. Landis said that communities may acquire the used four-door sedans either by purchase or by gift. In many parts of the country, thousands of idle cars are in dead storage for the duration of the war. Mr. Landis suggested painting the name of the patriotic donor on the ambulance door, when a chassis is donated for this purpose.

Allocation of ambulance bodies has been made on the basis of population of cities in target zones, with consideration of special transportation problems, number of four-stretcher ambulances already available, special war hazards, and the needs of smaller exposed communities, Mr. Landis said.

Communities will be notified of allocations by the Regional Directors of Civilian Defense through State Defense Councils.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

CONQUERING TYPHOID FEVER

In his annual report at the recent meeting in Birmingham of the Medical Association of the State of Alabama, the State Health Officer called attention to the notable progress that has been made within the lifetime of most of us in the conquest of a number of mankind's greatest health enemies. Between 1915 and 1942, he was proud to report, there were declines of nearly 59 per cent in this State's death rate for tuberculosis, nearly 23 per cent in its infant mortality rate, more than 37 per cent in its stillbirth rate, nearly 48 per cent in its maternal mortality rate, more than 75 per cent in its death rate for diarrhea and enteritis (under two years), exactly 88 per cent in its pellagra death rate, more than 85 per cent in its malaria death rate, and more than 83 per cent in its diphtheria death rate.

But the death rate for still another disease was reduced much more than those already mentioned. During that 27-year period the death rate for typhoid fever declined 99 per cent. According to provisional vital statistics reports, last year's rate for this disease was only three-tenths of one death for every 100,000 population, which is just another way of saying that there was only one typhoid fever death in this State for every third of a million people living here. Only nine Alabamians died from this cause during the entire year—an average of considerably less than one a month. As recently as 1941 typhoid fever deaths numbered 24, nearly three times as many as in 1942, and the records of the State Health Department's Bureau of Vital Statistics, which go as far back as 1913, do not show a single year prior to last year in which typhoid fever deaths in this State did not total at least twice those reported last year. Cases of this disease reported in 1942 were fewer than typhoid fever deaths reported during any year prior to 1932. It is no wonder that

public health workers take pride in the success of their efforts to protect people against this form of illness or that they point to it as proof of their contention that the wholesale saving of human life is not a beautiful dream but a present-day reality. It adds force to the famous statement of Dr. Herman M. Biggs: "Public health is purchasable. Within natural limitations any community can determine its own death rate."

As gratifying as this progress is, it does not mean that typhoid fever has ceased to be a health problem in Alabama. It has not even ceased to be a major health problem here. Nor will it do so for a long, long time. The present low mortality from this cause is due to the rigid observance of certain preventive measures, and should we be foolish enough to relax our vigilance in this regard, the mortality and morbidity curves would turn sharply upward again.

Besides its never-ending harvest of human lives among the civilian populations in war and peace, typhoid has plagued generals and affected the outcome of battles almost since the dawn of human history. It weakened the striking power of George Washington's troops in the Revolutionary War. Along with other diseases, it played a part in this nation's inability to make a successful invasion of Canada during the War of 1812. Alabama's first State Health Officer, the beloved Dr. Jerome Cochran, carried on a losing struggle against it among the Confederate soldiers whom he treated in his capacity as an assistant surgeon and later as a surgeon in the Army of the Confederacy. During our brief war with Spain in 1898 it is said to have done much more to kill our troops and render others incapable of fighting than anything the enemy could do. It was not until the first World War that it ceased to be a major factor in American warfare.

The very fact that typhoid fever has figured so prominently in the health and fortunes of armies has caused military men to show a particular enthusiasm for any measure which might hold out the promise of curbing its killing and disabling power. It is not surprising, therefore, that the first use of typhoid fever vaccine on anything but a very small scale involved men in uniform. Specifically, it involved the inoculation in 1897 of 4,000 British soldiers on duty in India. About three years later, while the Boer

War was in progress approximately 100,000 British Tommies were inoculated with a newly developed bacterin, or vaccine. Officers and men of the United States Army were permitted to avail themselves of this form of protection, if they wished to do so, in 1909. About two years later it was made compulsory. This undoubtedly was largely responsible for the already mentioned fact that the first World War was the first in this country's history in which typhoid fever did not compete with enemy bullets, bayonets and high explosives in the grim game of killing and disabling American fighting men.

The people of Alabama may now be said to be in the same position with regard to immunization against this disease that the men of the United States Army were in between 1909 and 1911. They can obtain it at small cost from their own physicians or at no cost at all, if they are medically indigent, from their county health departments, since the vaccine itself is furnished free by the State Department of Health. But, like the Army men during that two-year period, they are not required to take it. The fact that they may take it or not, as they prefer, is undoubtedly one of the chief reasons why typhoid fever is more prevalent among the civilian population than in the nation's armed services.

There is also another important reason for this difference. Just as the Army can require a soldier to take typhoid vaccine as often as the medical authorities may consider advisable, so it can exercise firm control over the quality and purity of the water and food consumed by the men in uniform. It can also provide sanitary facilities and sewers for the proper disposal of body wastes, prevent infected persons from cooking or handling food of any kind, and screen living quarters and food compartments to protect men and food alike against flies and fly-borne germs. The public health agencies in this State have an excellent record in protecting our people against typhoid fever and other diseases originating in public water supplies, and the sanitary supervision of food handling establishments and commercial food handlers has minimized this danger from this source. However, it is impossible in a democracy to maintain the same degree of control over

the lives of civilians that is accepted as a matter of course in the armed services. Increased susceptibility to typhoid, as well as several other forms of illness, is one of the penalties we civilians must pay for the privilege of doing as we please about being vaccinated, building and using the sanitary facilities we want and are willing to pay for, using milk that may or may not harbor germs, and drinking water from any pool or spring that may be convenient when we become thirsty.

Until a comparatively short time ago drinking impure water was regarded as practically the only means of contracting this disease, but it is now well established that this is only one of several methods by which typhoid germs may be transmitted from the sick to the well. A well known authority estimated in 1908 that waterborne cases of typhoid represented about 35 per cent of the total. Since that time much progress has been made in the supervision of public water supplies, and the percentage is now believed to be much smaller. Nobody knows exactly what it is, but you may obtain some idea regarding the situation in this State from the fact that not a single case of typhoid fever has been traceable to Alabama public water supplies in the past nineteen years. The cases that are still being transmitted by impure water are due almost entirely to drinking from private wells and other unsupervised sources. It is hardly necessary to point out that anyone drinking water from such a place is taking a dangerous risk whether he or she is a city dweller on a vacation visit to the country or a countryman who has never tasted piped water. So vacationists beware!

Vacationists should also beware of germinfested milk, although the danger from this source is not as serious as from impure water, since all of the milk sold commercially under the Grade A label is produced under the supervision of public health agencies. Whenever the purity of the milk one drinks is open to question, it is the part of health wisdom to drink only pasteurized milk.

What has been said regarding impure milk is also true of course of products made from it, such as ice cream, cream, fresh cheese and butter. Infected cream used in coffee, on cereals, etc. caused several cases of ty-

phoid fever in the city of Washington, while an outbreak in 1916 in the city of Birmingham was traced to ice cream. Ice cream was also held responsible for outbreaks in Chattanooga, Washington and Helm, California. Infected oysters eaten at fraternity banquets caused twenty-five typhoid cases and four deaths at Wesleyan University. Even such food products as celery, lettuce, watercress and radishes are believed to be potential agencies for the transmission of typhoid germs, although the actual danger from them is regarded as small.

A certain number, estimated at from two to four per cent, of all those who contract typhoid continue to discharge bacilli of the disease in their urine and excreta for many years after they have, in all other respects, fully recovered from it. Other persons, fortunately only a few, act as carriers without ever having the disease. They are as capable of infecting water, milk and other products as anyone. The fact that they are not recognized as sources of infection adds to their dangerous potentialities, since it prevents the public from observing the precautions that otherwise would be observed. The much-publicized Typhoid Mary, who is known to have caused 26 cases of typhoid in five years and is believed to have been responsible for many more during her lifetime, has had many less well known counterparts.

Summer time is vacation time, even when the world is at war. And summer time is upon us. Even those who stay at home cannot be certain that they are safe, because they are constantly associating with vacationists who may be harboring the germs of this disease. All, therefore, should give themselves the protection which vaccination provides and should also use particular care regarding the purity of the water and food which they will consume during the next few months. Do not allow indifference, procrastination or ignorance of the danger to turn this vacation period into a time of illness or death.

"In all plans for the control of cancer among various groups of our population the medical profession must play a conspicuous role. In the absence of special facilities the burden rests particularly on the general practitioner, the public health officials, the pathologists, the surgeons and experts in radiology. Scientific planning can determine just how the most efficient utilization of personnel and materials is to be secured."

BUREAU OF LABORATORIES Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

JUNE 1943

Examinations for diphtheria bacilli	
and Vincent's	403
Agglutination tests (typhoid, Brill's,	
undulant fever)	831
Typhoid cultures (blood, feces and urine)	815
Examinations for malaria	1 000
Examinations for intestinal parasites	1,997
Serologic tests for syphilis (blood and	
spinal fluid)	48,802
Darkfield examinations	54
Examinations for gonococci	2,869
Examinations for tubercle bacilli	1,692
Examinations for Negri bodies	
(microscopic)	45
Water examinations (bacteriologic)	915
Milk examinations	2,245
Pneumococcus typing	
Miscellaneous	311
Total	62,815

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

THIS PROBLEM OF FOOD

Contributed by Amanda Tucker, M. A. Nutrition Consultant

It has been said that food may not make the man, but it has a tremendous effect. Dr. Morris Fishbein says we now know that children may be made taller, more energetic, and even mentally superior by proper diets if based on our present knowledge of nutrition. Healthy people resist diseases, infectious diseases at least, better than do unhealthy people, and good nutrition makes it possible for people to be healthy.

We, as American citizens, are in danger of becoming less able to do good work on our jobs unless intelligent thought is given to the food we eat. Careful observation by food specialists reveals that not more than half of the people eating in public eating places select good meals even when foods needed to provide adequate diets are available. The increasing shortages of certain popular foods, particularly lean meats, make substitution of other foods which contain the same essential nutrients necessary. Some of those being used as substitutes are

eggs, cheese, peanuts and soy beans. Due to the fact that there are war-time shortages, and the list will increase as the war continues, knowledge of food values and better food habits are doubly important. Some food elements are being added to flour, bread, grits, cereals, oleomargarine, salt and milk. This, however, is only one way in which efforts are being made to improve our food supply.

How to supply the right foods and how to get people to buy wisely are tremendous problems. The difficulties are too great for lay groups, since they can educate only generally and without genuine authority. Only the physician is able to diagnose and prescribe. Therefore the serious problem of education in nutrition must be under the supervision of medical authority. Quoting Dr. Fishbein again: "Until adequate knowledge of deficiency diseases and scientific nutrition become the common property of all members of the medical profession, the utmost that can be realized in this field will not be accomplished."

BUREAU OF SANITATION T. H. Milford, M. S. in S. E., Director

REVISION OF THE DRINKING WATER STANDARDS FOR INTERSTATE CARRIERS

Contributed by Arthur N. Beck, B. S., M. S. Assistant Sanitary Engineer

The recommendations of the advisory committee appointed by the Surgeon General in February 1941 on the revision of the 1925 drinking water standards have been adopted by the United States Public Health Service. The standards of the U.S. Public Health Service are used in the administrative action which it is required to take upon the supplies of drinking water used by common carriers for passengers carried in interstate traffic. The authority certifying the water supplies is the Surgeon General of the U.S. Public Health Service or his authorized and designated representative; and the agencies reporting on the supplies are the respective state departments of health or their designated representatives.

With respect to the principal revision in

the new standards the advisory committee reports as follows:

- "(1) A distinct separation of the text into:
 (a) that portion containing the statement of the standards, and (b) that portion constituting a recommended manual of water works practice representing the judgment of the technical subcommittee composed of officers of the Public Health Service. This portion of the text is intended to serve as a guide to the reporting agency and should not be considered as indicating additional requirements to be met for certification of the water supply.
- "(2) In the bacteriologic section the use of 5-10 ml. portions or of 5-100 ml. portions is made optional; a minimum number of samples is to be examined monthly, the number depending upon the population served; the laboratories in which bacteriologic examinations are made and the methods used in making them are subject to inspection at any time by the designated representative of the certifying authority.
- "(3) Concentration limits for lead, fluoride, arsenic, and selenium are included as part of the standards and their presence in excess of the limits stated shall constitute ground for rejection of the supply. Limits in concentration that should not be exceeded, where other more suitable supplies are available, are given for copper, iron and manganese together, magnesium, zinc, chloride, sulfate, phenolic compounds, total solids, and alkalinity.
- "(4) The results of recent studies on the potential pollutional hazards existing in the water supply systems of our communities due to faulty plumbing practices, cross-connections, interconnections, etc., as well as the pollutional hazards which are due to faulty water plant and distribution system operational practices, any or all of which may jeopardize the safety of the water in the distribution system, have been adjudged as being of prime importance in the consideration of the requirements of these standards. The utmost care and consideration have been given to the inclusion of those provisions which would serve to detect possible contamination arising in the distribution system and thus lead to its correction and further safeguarding of the traveling public.

"The committee believes that, in general, water supplies to be eligible for certification should meet all (sanitary, chemical, and bacteriologic) requirements of the standards and that definite failure to meet any one of them should be ground for rejection or provisional certification, according to the judgment of the certifying authority. However, it is realized that the statement of an official standard of drinking water quality, to be generally applicable, must be interpreted reasonably. The committee has attempted to take into consideration all aspects of the problem. It offers these standards with the recommendation that the judgment and discretion of the certifying authority be exercised in their application."

"The revision in the standards having probably the greatest effect on reporting supplies in Alabama relates to sampling. The minimum number of samples collected from the supplies and recommended to be examined bacteriologically each month is based upon the population served. The following table was compiled from a graph included in the standards:

	Minimum Number of Samples
Population Served	Per Month
2,500 and under	1
4,000	2 3
5,000 to 6,000	3
7,000	4
8,000	5
9,000	6
10,000	7
15,000	10
20,000	20
25,000	25
30,000	30
40,000	45
100,000	100

Recent legislation has been passed revising certain sections of the State Code dealing with public water supplies in order to conform more nearly with the sampling schedules.

[&]quot;Tuberculosis work has consistently stressed the major importance of positive health, of being more physically fit than the immediate demands of your life seem to require. This we may well call the margin of safety in living. Doctor Edward L. Trudeau was not quite wise in advocating too early exercise for his patients but he was basically sound in his faith in the health-giving power of the outdoor life."

CURRENT STATISTICS *PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1943

			stimated pectancy
	May	June	June
Typhoid Typhus Malaria Smallpox Measles Scarlet fever Whooping cough Diphtheria Influenza Mumps Poliomyelitis Encephalitis	6 29 243 4 676 34	10 26 260 0 484 28 261 10 116 91 3 2	33 23 515 1 335 29 206 26 48 72 10 2
· ·			

Chickenpox	148	29	44
Tetanus	2	5	6
Tuberculosis	289	253	265
Pellagra	7	8	56
	39	14	7
Meningitis			105
Pneumonia	330	148	127
Syphilis	1772	1343	1464
Chancroid	35	32	7
Gonorrhea .	682	561	382
Ophthalmia neonatorum	4	0	1
Trachoma	0	0	0
Tularemia	2	1	0
Undulant fever	12	5	5
Dengue	0	0	0
Amebic dysentery	. 1	1	0
Cancer	153	163	0
Rabies-Human cases	0	0	0
Positive animal heads	_ 10	11	

^{*}As reported by physicians and including deaths not reported as cases.

BOOK ABSTRACTS AND REVIEWS

BOOK ABSTRACTS AND REVIEWS

Atlas of Obstetric Technic. By Paul Titus, M. D., Obstetrician and Gynecologist to St. Margaret's Memorial Hospital, Pittsburgh, Pa.; Secretary to American Board of Obstetrics and Gynecology. Illustrations by Miss E. M. Shackelford, Pittsburgh. Cloth. Price, \$7.00. Pp. 180, with 193 illustrations. St. Louis: C. V. Mosby Company, 1943.

This book is apparently the first to teach obstetrics almost entirely by visual education. The amount of written matter is minimal but sufficient. The 193 illustrations, pen and ink, are unusually large and striking with clear-cut detail and uniformity. One can completely study the volume from cover to cover in five to six hours. It is readily digestible by anyone who has a basic knowledge of the subject, and as a quick reference book before, during or after an obstetric operation it is extremely valuable and fills a long-standing need.

As the author himself points out, "there is at present a popular vogue for presenting information about current events by means of magazines filled with pictures and accompanied by terse titles, and there is no reason why this should not be a useful method of teaching obstetric technic." The subject of operative obstetrics can be taught adequately and studied from written texts but good illustrations make it much more vivid. All the illustrations are originals made for this book.

There are fifteen sections, in general following the sequence of the author's book "The Management of Obstetric Difficulties." It deals with normal and operative deliveries as well as the common complications of pregnancy and the puerperium. There are many small details not found in other books which should be of special interest to the general practitioner. In this state of Alabama where 85 per cent of the physicians do obstetries, the great majority general practitioners, some of whom perform more deliveries than the specialist, this book should be a "must."

Such details as masks, putting on sterile gloves, proper pelvimetry and minor operations during pregnancy are often searched for by physicians. It is unfortunate that Dr. Titus has not included a section on knot tying. The chapter on abortions and induction of labor is clear, all-inclusive and the technic is perfect. His technic for as-

sisting normal delivery, spontaneous, is unfortunately not followed sufficiently, and as a result there are too many preventable or too severe lacerations. Episiotomy and perineorrhaphy are described and manual removal of the placenta and intrauterine packing for postpartum hemorrhage are included.

Under forceps delivery the author goes over application for low, mid and high stations; general types, Kielland and axis-traction forceps; use of the Piper forceps for the aftercoming head in breech presentations; and both manual and forceps rotation for occipito-posterior positions. Version, external and internal, is described, and breech extraction is especially well illustrated, painstakingly proceeding step by step. Postpartum procedures, several of the common conditions one encounters during postpartum attendance, are hastily reviewed, including conization and sterilization.

Chapters on operations for ectopic pregnancy, both ruptured and unruptured, and for ovarian cysts illustrate good practical simple technics. The various cesarean sections—classical, low segment or cervical, and extra-peritoneal, as well as the Porro section—are fully covered. Then there is a chapter on the mutilating operations. Finally there is a short but very instructive section on sterility, enumerating common female faults. treatment of the cervix and of the tubes, including the Rubin test and salpingography; and illustrating the Novak suction curette for endometrial biopsy.

All in all this book would constitute an admirable adjunct to any standard textbook on obstetrics and for quick reference should prove invaluable.

W. A. Cunningham.

Anatomy of the Nervous System. By Stephen Walter Ranson, M. D., Ph. D., Formerly Professor of Neurology and Director of the Neurological Institute, Northwestern University Medical School, Chicago. Seventh edition, revised. Cloth. Price, \$6.50. Pp. 520, 408 illustrations, some of them in colors. Philadelphia and London: W. B. Saunders Company ,1943.

This, the seventh edition of Anatomy of the Nervous System, was published after the death

[†]The estimated expectancy represents the median incidence of the past nine years.

of Dr. S. W. Ranson, the author. The publishers announce that Dr. S. L. Clark, Professor of Anatomy at Vanderbilt University, will serve as his successor in future revisions.

This standard text-book has been in constant use since 1920 and is widely known to every physician.

The purpose of the text is to present this most difficult subject in such a manner with sufficient detail that it may be mastered by the novice or student.

The subject is presented in its relationship to the living organism rather than purely as structural details. In general the terminology is uniform. The Basle anatomical nomenclature has been used throughout. The text itself is simple to read and is profusely illustrated with diagrams. It covers in detail all of the structures of the central nervous system: spinal, cerebral and sympathetic. Not only does it cover the physiology of the central nervous system, but also the histology. The last 130 pages are devoted to diagrammatic illustrations of sections of the brain and spinal cord at various levels, with a laboratory outline suggesting the course of study.

The publishers are to be complimented upon a very neat presentation, the excellent set up and the fine, heavy grade of paper used.

Ranson's Anatomy of the Nervous System will continue to remain a standard text-book.

Norman Van Wezel.

Convulsive Seizures. By Tracy J. Putnam. M. D., Professor of Neurology and Neurosurgery, College of Physicians and Surgeons, Columbia University; Director of Services of Neurology and Neurosurgery, Neurological Institute of New York. Cloth. Price, \$2.00. Pp. 158, with 12 illustrations. Philadelphia: J. B. Lippincott Company, 1943.

The author has added still another manual to that shelf of medical literature devoted to the better understanding of his condition by the patient and his family. In the broad subject of convulsions, so long clothed in some aboriginal mysticism and so long neglected by medicine for the embarrassing problem it still remains for the most part, this book is a valuable clarification. This eminent author has exercised the convulsive spirits with an honesty and sympathy that the unfortunate patient will appreciate.

Starting with a description and diagnosis of seizures, Dr. Putnam runs through the various theories and practices in current use. He describes the procedure to be followed by the patient and those about him not only throughout the course of the seizure but also in the intervals between them. Unduly detailed are descriptions of therapy with emphasis on the newer phenytoin whose addition to the armamentarium has, along with electroencephalography, rekindled the spluttering light of interest of both the medical profession and of many disheartened patients, hitherto refractory to sedative therapies.

The patient's life is examined with relation to general health, mental hygiene and the choice of a physician. The questions of eugenic sterilization, marriage and heredity are amply and sanely treated. Work and related legal and social retrictions are discussed with bibliographies of interest to patients, lawyers and employers alike.

Dr. Putnam has performed a creditable service for "the patient, his family and friends." He has not included the physician in this group but it may be assumed that his purpose in including a healthy measure of detail was a sly hope that the physician might be tempted to browse through the pages, and well he might.

Philip S. Bazar.

Burns, Shock, Wound Healing and Vascular Injuries: Military Surgical Manuals Volume V. Prepared under the auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. Cloth. Price, \$2.50. Pp. 272, with 82 illustrations. Philadelphia and London: W. B. Saunders Company, 1943.

The fifth volume of this series of Military Surgical Manuals contains four separate portions. The first deals with burns. It stresses the importance of having a "burn team" whose efforts are directed towards asepsis and restoration of function. It should include an internist to combat shock, adequate assistants for maintenance of dressings, and a plastic surgeon for early repair work.

The treatment of burns is handled chronologically. Immediate shock must be treated because this is the chief cause of mortality during the first 48 hours of severe burns. Sixty per cent of deaths occur during this time. The chief laboratory procedure to determine the degree of shock is the hematocrit determination. The authors feel that this one test, namely for hemo concentration, is sufficient evidence of impending shock.

In treatment of the burn they advocate the use of tannic acid and triple dye applications, except on the hands and face. Here the use of sulphonamide cream is advocated. If infection ensues, then the use of the sulphonamides orally is advised.

The second chapter deals with burns of specific areas, some of which are demanding new attention, such as bomb shell blisters and fuel oil burns as seen during naval warfare. Burns produced by incendiary bombing and liquid fire are also included. The so-called "air man's burns" due to cockpit fire are treated as a special entity.

The authors present the objections to the use of tannic acid and silver nitrate but still feel that some of the best results are obtained by this procedure. They present photographs supporting their contentions. They do add, however, that if the burn is seen 6 hours after it occurs and appears grossly contaminated, then the sulphonamide creams and saline compress methods are preferred in order to avoid infection or hepatic necrosis. This holds true also for the argument against the aniline dyes. Considerable stress is placed upon saline baths and constant sodium hypochlorite irrigations by the use of cellophane envelopes surrounding the extremity. It is a treatment relatively new and receiving extensive trial in Great Britain.

The second section of the book dealing with shock presents the various theories in a very excellent logical and yet simple explanation of the phenomenon of shock, including the physiology and pathology.

The third portion dealing with wounds does not add much except to outline the routine use of sulfanilimide powder and sulfanilimide dressings. They recommend the use of sulfanilimide in preference to sulfathiazole powder since the former does not cake and thus act as a foreign body. Throughout the treatment of traumatic wounds it is stressed that aseptic technique, masks, etc., be used by the dressers. This must, however, apply only to the base or fixed hospitals. Certainly the men in mobile units or front line units do not work under these conditions.

The fourth section dealing with vascular injuries is in reality a differential diagnosis of diseases as well as injuries involving arteries or veins. It should be of interest to all surgeons or internists whether civilian or military attached. The methods of sympathetic nerve block are well demonstrated in simple diagrams.

The last chapter dealing with diseases of arteries and veins in reality is a treatise on differential diagnosis.

All in all, this small volume which contains only 260 pages is packed full of useful information on the varied subjects.

Norman Van Wezel.

New and Nonofficial Remedies, 1943, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1943. Cloth. Price, postpaid, \$1.50. Pp. 772. Chicago: American Medical Association, 1943.

The current volume of New and Nonofficial Remedies continues, with minor improvements, the convenient and informative system of classification adopted for the 1942 volume. The terminology of the official drugs has been revised to conform to the U.S.P. XII and the N.F. VII. One notes that the valuable bibliographic index now appears on white instead of "India Tint" paper, a wartime necessity no doubt. This index appears before the general index which is now more properly placed at the end of the book. To one accustomed to the old format of New and Nonofficial Remedies the new arrangement ppears at first somewhat awkward but with a little use the wisdom and convenience of the changes becomes more and more apparent.

Textual changes and revisions do not appear to be as numerous as in some previous editions. The chapter, Digitalis and Digitalis-like Principles and Preparations, has been extensively and somewhat radically revised to keep pace with the changing attitude toward this drug. It is understood that in this revision the Council had the aid of the foremost digitalis authorities. pharmacologists and clinicians alike. Other revisions have been made obviously to keep the book up to date with medical knowledge. cite a specific revision indicating the increasing skepticism of the Council concerning a drug, it is interesting to contrast the following sentence in the 1942 general article on Chaulmoogra Derivatives, "The therapeutic properties of chaulmoogra oil appear to be due to these optically active unsaturated fatty acids of the chaulmoogric series," which in the 1943 edition reads "Any therapeutic properties chaulmoogra oil may possess would appear to be due to these optically active unsaturated fatty acids of the chaulmoogric series."

No such spectacular new additions as the appearance in a previous volume of the sulfonamides is to be noted. Among the more noteworthy of the new additions are Nikethamide, the central nervous system stimulant which was first introduced as Coramine; Diethylstilbestrol, the synthetic estrogen; Trichinella Extract for the diagnosis of trichinosis; and Zephiran Chloride, a mixture of alkyl dimethyl benzyl ammonium chlorides, an interesting new anti-infective agent.

No one can examine the successive volumes of New and Nonofficial Remedies without increasing his profound respect for the faithful and unselfish work of the Council on Pharmacy and Chemistry in the cause of rational therapeutics. Each volume represents a progressive milestone on the road of medical science.

A. M. A.

Reports of The Council on Pharmacy and Chemistry. Issued under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association. Cloth. Price, \$1.00. Pp. 207. Chicago: American Medical Association, 1943.

Through the years the size of this volume has grown with the increased work of the Council on Pharmacy and Chemistry until the present edition has the same number of pages as the book published in 1908, which covered the Council's first four years of activity. Some of the functions of this group are well known, but a more thorough understanding of the Council's scope may be gained from the annual reprint. This volume epitomizes that phase of the Council's work which may be said to be collateral to the "acceptance" of drugs—the informative consideration of current medical problems in the interest of rational therapeutics. It contains reports of studies by private investigators which were originally published in The Journal under the sponsorship of the Council such as preliminary discussions of new developments in therapeutics and timely articles on the status of recognized agents as well as reports of omission or rejection of products from New and Nonofficial Remedies. It also offers a record of current decisions on matters of Council policy.

Several of the reports are of particular interest for various branches of medical science: the use of bulk ether in anesthesia, the absorption of surgical gut (catgut), the higher types of antipneumococcus rabbit serum, the surgical and medical treatment of animals with experimental hypertension and the status of racemic epinephrine solutions for oral administration. The reports in this small compact volume represent expert medical consensus and are proffered to aid in the consideration of the value of therapeutic agents.

A. M. A.

Industrial Health: Asset or Liability. By C. O. Sappington, A. B., M. D., Dr. P. H., formerly Special Lecturer on Industrial Hygiene and Occupational Diseases, University of California, Stanford Medical School, University of Michigan, University of Illinois Medical School, and Rush Medical School. Cloth. Price, \$3.75. Pp. 227.

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Springfield, Illinois: H. M. Van Hoesen, Jr., Publishers, 1943.

In this volume Dr. Sappington discusses industrial health briefly and interestingly. At the beginning he defines industrial health in somewhat broader terms than the average industrial physician or industrial medical department has ever thought or acted.

The total cost of industrial illness and incapacity to work alone constitute the greatest drain on industry, and the institution of a sound and carefully planned industrial health service, whatever else it may be, can only be classed as "Good

Business."

Dr. Sappington is liberal in his praise of past accomplishments. He is also equally liberal in constructive criticism on the points of emphasis in industrial medical services as they have functioned in the past and as too many of them exist today.

In industrial health services today we must work with the whole individual who is influenced not only by conditions in the plant but by conditions in the home and community.

Dr. Sappington points out that today we may do two things within the plant: "Select a man to fit the job or make the job fit the man." He further states that industrial medical or health services should have a greater interest in and derive more benefit for employees, by active participation not only in plant health safety and recreational activities but those of the local schools and community at large.

This book is interestingly written and practical, and the factual and statistical material is handled in a manner which is easy to read, and can be recommended to all industrial physicians and surgeons.

Edwin H. Place.

AMERICAN MEDICAL ASSOCIATION NEWS

OUTLINES RULES FOR PREVENTION OF INFECTION WITH TICK FEVER

CASPER, WYOMING, PHYSICIAN POINTS OUT THAT ROCKY MOUNTAIN SPOTTED FEVER IS WIDESPREAD THROUGHOUT NATION

Pointing out that Rocky Mountain spotted fever (tick fever) is widespread in distribution throughout the country, George E. Baker, M. D., Casper, Wyo., points out in The Journal of the American Medical Association for July 24 that prevention of infection may be secured by simple means and the use of tick fever vaccine.

"Prevention of exposure to infection," he says, "is secured only by remaining out of localities where ticks abound. Such precautions are not at all times possible or feasible. Those entering infested localities should wear trousers, gathered by some means at the bottoms in order to prevent vectors from. crawling up the legs. Ticks do not jump on those who pass their vantage points but lie in wait on low grass or vegetation not over: a foot and a half above the surface of the ground, actively moving their numerous serrated legs, by which means they seek transfer to objects that brush by. Clothing should have a minimum of seams and openings in order to prevent their ingress to body surfaces. Smooth clothes present ticks from gaining footholds, yet those with a rough nap impede their progress once they have got on the body covering. It is a good plan

while in tick infested localities to pass the hand occasionally over the back of the neck in order to detect crawling ticks. They may gain access to the body by working themselves beneath the collar.

"Clothing should be removed at least two or three times a day and the body thoroughly examined for the presence of crawling or attached ticks. As they hide away in body folds, crevices and hairy portions free from rubbing, a diligent search must be conducted. Camps should be located where rodents are few, preferably in places where no low grass, sagebrush or small bushes are growing. Wooded areas along creek banks are best avoided, as are the vicinities of old trails and roads. Ideal camping spots are usually where standing timber is present with a minimum of low vegetation. Persons must again inspect their persons, clothing and bedding before retiring for the night in the open. The precaution is most important when 2 persons sleep in close proximity. Infected ticks may attach themselves to both persons successively. The first one may escape infection or be but mildly ill, the second one more seriously so from reactivation of virus in the tick vector by blood ingestion from the first victim. While in tick infested localities it is unwise to leave bedding spread on the ground during the day. It attracts ticks, often from a considerable distance. After return from trips, clothes and bedding should be carefully

gone over, aired and then removed to buildings not used for human habitation. Once ticks have taken up their abode in a location, eradication is apt to prove most difficult and uncertain. . . .

"Tick vaccine gives protection against tick fever. It is prepared by the Rocky Mountain Laboratory of the National Institute of Health, Division of Infectious Diseases, at Hamilton, Mont., and is dispensed to physicians desiring it for the purpose of immunizing those who run the danger of being exposed to the disease. . . . The degree of protection afforded by vaccine and the duration of such protection varies with vaccinated persons and the virulence of infection to which they are exposed. As a rule, those vaccinated in the spring of the year retain a considerable degree of immunity for at least the remainder of that year. . . . In order to afford the greatest degree of protection possible, it is recommended that immunization be performed each year. . . ."

Dr. Baker explains that the highest incidence of tick fever in the western area of the United States is from the early spring into the early summer months. In the mountainous regions it is highest during the late spring months, owing to delay in the advent of warm weather. In the eastern areas the disease is more prevalent in the late spring and early summer months, but cases can occur in the fall of the year.

"Treatment of tick fever is purely symptomatic and supportive in character," the doctor says. "There is no specific. Its absence must not predispose to an attitude of helplessness and hopeless inactivity on the part of those caring for the disease. . . . Vigorous yet well directed procedures bring about successful outcomes for many patients whose recovery appears hopeless at the time they are first placed under care.

"Bed rest with good nursing care is necessary from the beginning of the illness in order to conserve strength as much as possible. At the onset patients frequently do not appear ill enough to make the precautions necessary, but the rapidity with which serious manifestations appear makes those in attendance thankful that they have been insisted on. Patients must be kept as quiet as possible, both mentally and physically. Baths, packs and simple sedation are often effective. . . .

Dr. Baker explains that tick fever is closely related in many respects to typhus fever. In the areas in the west where it is common the wood tick is the principal source of the infection. Since warm, dry weather brings the wood tick into full activity, it is possible that in any locality tick fever can occur in the colder months of the year provided there is an abundance of warm sunshine or adequate conditions of artificial heat. Transmission of tick fever by species other than wood ticks is apparently possible. At least eight other species have been incriminated.

Tick fever has a usual incubation period of from four to eight days, the extremes being two to twelve. The initial manifestations of the disease resemble those of any fever illness, there being discomfort, headache, loss of appetite and chilly sensations. These vary in degree, lasting an average of two or three days. The disease usually has an abrupt onset, initial symptoms often appearing in the late afternoon or early evening. There is a definite chill, pronounced frontal headache and severe aches and pains in the muscles, bones and joints, the latter being more pronounced in the back and lower extremities.

"Tick fever may be confused with various other infections," Dr. Baker says, "particularly when the disease appears unexpectedly in a locality or if encountered by those unfamiliar with its manifestations. The diseases most commonly causing confusion are typhoid and allied conditions, severe measles, smallpox, epidemic meningitis...undulant fever...typhus fever and Colorado mountain fever..."

HOME CANNERS TOLD HOW TO MAKE THEIR PRESERVED PRODUCTS SAFE

WITH EXERCISE OF A LITTLE CARE THEY CAN BE MADE AS SAFE AS THOSE OF COMMERCIAL FIRMS, WRITER IN HYGEIA DECLARES

With a little care, home canners can make home preserved products as safe as those which are commercially canned, Doris McCray, Cedar Rapids, Iowa, declares in Hygeia, The Health Magazine for August.

"Hundreds of thousands of dollars have been spent on research to determine safe canning methods," she says. "Commercial canners sponsored such research and constantly use the information obtained from it. Since 1925, outbreaks of food poisoning by the botulinus toxin have not been traced to American commercially canned food. . . .

"Clostridium botulinum—the organism that causes botulism—is widespread in garden soil. The organisms form spores or seeds that are extremely resistant to unfavorable conditions of temperature and humidity and produce a toxin or poison so powerful that a tiny amount may cause death. . . . The foods in which this poison has most often occurred are green beans, asparagus, spinach, peas, corn and—most surprising of all—tomatoes, which are often considered the easiest fruit or vegetable to can. . . "

Mrs. McCray says that among the many strains of bacteria are those which cause the commonly recognized spoilage known as "flat sour." Corn or peas in a warm room are subject to flat sour spoilage, a name which arises from the fact that spoilage is caused by acid production without gas, she explains. Many different bacteria grow either in air or without it in "low acid" products such as corn, peas, beans and asparagus, or in medium or high acid foods.

"Some kinds of yeasts may also occasionally cause a small loss of canned food," she continues. "These yeasts are entirely different from the selected strains used for bread making. They float in the air and may cause fermentation in preserved food which is not tightly sealed, but they are easily destroyed in the usual canning process.

"Other little plants called molds will grow in fruits, but it is unusual for them to withstand ordinary processing. . . Flies and other insects and garden soil irrigated by water contaminated with sewage or covered with fertilizer from animal sources may introduce pathogenic or disease producing bacteria into food. The bacteria may be removed from food mechanically by scrubbing, rinsing, and paring. . . . If this is not done, however, the sterilization of equipment and boiling of food must accomplish the task. . . ."

To prevent any untoward effects from home canning, Mrs. McCray suggests that the canner try to keep bacteria out of the fruit jar in the first place, heat the contents of the jar sufficiently to kill any bacteria, cool the jar quickly so that flat sour bacteria will not grow, store the food in a cool place so that other thermophiles will not grow and keep the seal absolutely tight to prevent the formation of yeast and molds.

"The belief seems to be widespread that, no matter what germs are in the fruit jar, the processing will kill them," she says. "This is a serious error, since a heavy load of bacteria requires a longer time or a higher temperature for processing than a light load.

"To sterilize the contents of a fruit jar would be to kill all micro-organisms and their spores. This would require such drastic heating that flavor, color and form would be impaired. 'Commercial sterility,' on the other hand, means that canned foods will keep under favorable storage conditions in a cool, dry, well ventilated room. . . . All canning recommendations should be based on the results of adequate, carefully controlled investigations of experimental packs. These should include heat penetration data and results of bacteriologic examination after incubation. . . ."

Mrs. McCray warns against the cold pack method of canning, saying that it has been responsible for much spoilage. In this method, cold food is packed into the jar, which is then filled with hot syrup before processing. "This method," she explains, "permits practically the entire load of micro-organisms to go into the jar, since a 'hot dip' may not destroy any of them. The processing is often inadequate. The result is spoilage unless the fruit is stored under ideal conditions. . . ."

Pointing out some of the other hazards of home canning, the author says that "In all canning, you must be careful of broken glass. If a jar breaks, discard the entire contents, since slivers of glass cannot always be seen and separated. If the seal is not tight when the jar is cold, put on a new lid and jar rubber, then process again for the full time, even though the extra processing makes the food mushy. Jar rubbers are weak this year. Do not stretch or fold them to test their elasticity. . . . To avoid undue strain on them, scald instead of boiling them. Leave the jar only partially sealed during processing. . . ."

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JUVENILE DELINQUENCY IN ITS RELATION TO THE WAR EFFORT

CHARLES P. TAFT Washington, D. C.

It is an old human failing to think that calling a problem by a big bad name helps solve it. But you do not need to go back to ancient history to discover that this strange faith in sinister-sounding words is a fallacy. Absenteeism is a case in point. Aiming this omnibus slur at every war worker who takes time off only made a bad matter worse. Fortunately the country soon realized this and adopted a more realistic approach. Where facts are studied, causes analyzed, and practical community action taken on the basis of this knowledge and understanding, progress is the invariable result.

The same thing is true of what we call juvenile delinquency. Merely "viewing with alarm"-and the country has been doing a lot of it recently—never makes much headway in turning so-called "bad" boys and girls into good ones. Helping boys and girls meet the strains of wartime living demands the best we can give them in knowledge and insight, and in sympathetic, intelligent service. You people here in Alabama know the growing seriousness of the unrest that leads to what is termed delinquency. Take just the one aspect of it which concerns us most directly in connection with venereal disease control: Here, in Montgomery, your law enforcement officials recently estimated that something like 70 per cent of all illicit sex relations involve girls of 16 or younger. This is an appalling situation, but one in which your experience is not unique.

You are aware also there is no any one easy cure-all. Knowing this, you have set up a State Committee on Children in Wartime under your State Defense Council. That gives you the means of pooling all your resources of prevention and protection; and this kind of joint action—in the community, and in the State and in the Nation—is the only effective way to tackle this job.

What, actually, do we know about this problem? Well, quite a good deal, though we can hardly expect to have an itemized statistical picture of all its multitudinous details. We know that all over the country an increasing number of teen age boys and girls are getting into trouble of one sort or another. The Children's Bureau, U. S. Department of Labor, estimates that juvenile courts dispose of about 200,000 cases a year. even in ordinary times. We know that these are not ordinary times; and we should not be surprised, as some people seem to be, that this fact is reflected in increasing maladjustment among young people. We know that an outstanding trend in the mounting rates of juvenile delinquency is the increasing number of girls involved. Ordinarily, according to Children's Bureau reports, the ratio of boys and girls coming into children's courts is 5 to 1. But the Bureau's estimates show that "whereas boys' cases increased in 1942 about 8 per cent over 1941, the girls' cases increased 31 per cent." Estimates from other sources indicate that among boys the most frequent charges are assault or other outbreaks of violence; among girls the increase seems to be linked with promiscuity or with behavior leading dangerously in that direction.

Read before the Second Conference on Wartime Venereal Disease Control, House of Representatives, Montgomery, July 9, 1943.

Director, Community War Services, Federal Security Agency.

Like any estimate, these percentages based on juvenile court figures are simply straws which show which may the wind is blowing. They do not include any count of boys and girls who are in difficulties but did not reach the court, either because they were helped by some other means, or because they were not helped at all. They do not allow for the varying grounds on which children may be brought into juvenile courts, depending on the laws, and the law enforcement and child welfare facilities, and the social and moral climate of the particular community. They do not reveal the wide differences in the experiences of different communities: There are actually some places where, because pressures on young people have not been so great, or community safeguards have been unusually effective, the rate of delinquency has not gone up. But these are probably the exception rather than the rule.

There is no dodging the facts that this is a nation-wide problem and that the urgency increases with every added day of war. Nor can we escape responsibility by throwing up our hands and saying it cannot be helped. It is true that war always aggravates such difficulties. That was plain in this country and elsewhere during World War I, and in England and no doubt elsewhere from the beginning of the present struggle. But that only makes the challenge more pressing. We cannot afford to ignore it; we cannot abandon our young people to the hazards of physical disease and lifelong social maladjustment. Protecting them from these hazards demands a kind of treatment that looks beyond the immediate symptoms and works to remove the cause.

A group like this understands so well what lies behind this picture that we sometimes forget how little these causes are understood by people generally. Not that the press and public are apathetic. In the last six months more than 1,200 newspaper items have come into our office on this subject. and this is only a drop in the bucket of public alarm. One of the big jobs that a group like your State Committee on Children in Wartime can do is to convert this concern which too often gets no further, to quote a typical magazine title, than exclaiming "This Is Shocking!"—into understanding and support for practical preventive action.

People need to realize that this is no new problem. Like influenza and other epidemics, it is not war-created. But, again like other epidemics, it is very definitely spread and intensified by war conditions: by the uprooting of families, by the glamor of war adventure, by the often unconscious sense that the uncertain future gives license to grab whatever satisfactions can be found today, without counting cost or danger.

The teen age is the hardest hit by this kind of pressure. At the very time when psychic and social "growing pains" are most acute, they find themselves lost in a kind of emotional No-Man's Land. They are no longer children. Boys barely their elders have been called to man's estate and are under arms. More of their contemporaries are getting married. Still more are getting jobs. Even the best adjusted young people, with stable, sympathetic homes behind them, may feel that "don't belong" in this highspeed, war-dizzy world.

Those who lack an anchor to windward in themselves, in their homes, in their communities—are the ones who swell the ranks of the delinquent. Take the girl who comes to police court attention through venereal disease control measures. Those who know her type best agree that such a girl usually comes from a background that has failed to serve as a stabilizer. She may be the child of a broken home; or of a home where there is no one to take the mother's place while she is at work. Sometimes her parents themselves are delinquent. Or she may be trying to escape abject poverty, or family discord, or unreasonable restrictions. As a result. she may be a runaway or a girl forced into too early employment.

War underscores these conditions: More and more married women are going into industry, and frequently this leaves a burden of housekeeping and child-tending, for which she is not prepared, on a high schoolage daughter. The same urge to find a job will, by the end of this summer, have brought some three million boys and girls into the labor market. Girls leave their homes, particularly when that home has never known the meaning of financial security, to look for work in towns near military posts or in war industries. Untrained, inexperienced, the jobs they find are often the very ones that leave them most open to exploitation.

Along with all this, the mass migration of war workers often involves a choice of bad alternatives. If young people stay behind in the home town, they are often left stranded without any family ties. If they come along to the new community, they are altogether too likely to feel friendless and at loose ends. Overcrowded housing lacks any sense of home; overcrowded towns may lack wholesome opportunities for outside recreation and social life—for which the juke joints offer highly questionable but alluring compensation.

If all this held no hazard except the disintegration of normal living for young people, it would be bad. But, as the figures show, it has worse, and more specific, hazards for the youngsters themselves and others. The evidence is inescapable, for example, that the young girl, frequently in her teens, who is engaging in indiscriminate sex promiscuity, now constitutes a major problem in the spread of venereal disease.

Though comprehensive statistics are lacking, indications of this situation come from widely scattered communities in all parts of the country: A newspaper in a metropolitan area on the Eastern seaboard quotes the city health department as reporting more than 20 per cent increase in venereal disease cases among the 15 to 19 year-old age group for the first ten months of 1942, as compared with 1941. A survey made by the Welfare Association in a Southwestern State shows that in a city near a large naval center "the average age of 118 girls examined for venereal disease in 1942 was 16 years; and that 74 (or more than 60 per cent) of them were infected."

The increase in promiscuity and in the incidence of venereal disease among teen age girls is a two-edged problem: It places a different emphasis on the business of protecting men in military service from contracting disease; it underscores the equally vital necessity for safeguarding the girls themselves. The sacrifices our fighting men are facing on the world-wide battle line will seem unwarranted if we permit such a sacrifice of American girls here at home. Yet that is what would happen if this problem were by-passed. It is not being by-passed. Towns and cities all over the country are tackling it, and Federal and State agencies are doing everything they can to help them. The work of my own Office of Community War Services in the Federal Security Agency offers a pretty good cross-section of this nationwide concern and activity. For one thing, we have a coordinating function which keeps us in pretty close touch with other Federal agencies; and for another, two programs for which we have operating responsibility tie right into this problem we are discussing today. These programs are social protection and recreation. And the practical suggestions that I want to pass on to you now come out of the experience of local communities with which we have been working in these two fields.

On the law enforcement side of the social protection program, we work with the duly constituted local authorities and with their representatives in the Federal Security Administrator's National Police Advisory Committee. In much the same way we have the fullest cooperation of national officials representing such business groups as the hotel and taxicab and liquor industries. Our National Police Committee has recently issued a new law enforcement manual; and this, for example, was discussed with and approved by the National Sheriff's Association, the International Association of Chiefs of Police, and by the various industries concerned, such as hotels and taxicabs.

An entire section of this manual is devoted to the problem of the teen age girl. Because it distils the experience of local communities that have found practical, constructive ways of dealing with this problem, I want to pull out some more of its high spots and summarize them for you. And incidentally, the basic policies that guide good handling of these cases go for all young people in trouble or in danger of getting into trouble. These girls differ from other young people who may be in difficulties only because of the terribly serious consequences they may bring on themselves and on others.

One point repeatedly emphasized is that a hard-boiled "cracking-down" policy defeats its own ends. Experienced law enforcement officials do not make the mistake of some overanxious citizens who think the way to handle young offenders is, as one of them recently said in our office, "to scare hell out of them." A girl or a boy who comes to police attention for the first time is facing a turning point in life, and everything should be done to see that it is a turn in the

right direction. An experienced officer will not rush such a girl to the police station or sheriff's office without considering other alternatives, and calling upon all the help he can get in the community to prevent the necessity of police or court action. from the very outset—or, better still, in advance—such a case calls for the closest kind of working relationship between all the community services available. Police officers, social workers, school authorities, job training and job placement agencies, health departments, citizens' associations, churches, and military authorities in communities near Army and Navy posts—all of these can help, and should be organized to help quickly, effectively, and in the interest of protecting youth.

The first resource to be looked into is, of course, the girl's own home. Perhaps, if they realize what is at stake, her parents can help her redirect her interests, and if so she can be taken home without even entering her name on the police or juvenile court record. But if, for any one of a dozen reasons, taking her home is no solution, some place to stay must be found for her. And that place should not be jail. Sometimes girls can be sheltered through the cooperation of the local children's home. In other places, the Traveler's Aid, the YWCA, the Salvation Army or a hospital can take care of them. In still others, special arrangements have been made with a rooming house or a private home which has been approved by a recognized community social agency.

Since health and redirection, rather than preaching or punishment, is the goal, girls apprehended in circumstances that make it seem advisable should receive medical examination for venereal disease. This applies equally to the girl who is returned to her home and to those who are cared for elsewhere. If the examination shows infection, and the girl does not remain under police supervision, the aid of a social or health agency should again be enlisted to see that proper treatment is followed through.

Out-of-town girls present even more problems than local girls, and make the need for some shelter other than jail doubly urgent. They are entitled to as much consideration as local girls and usually need even more help and protection. Careful interviewing, preferably by a woman, should be the first step. This means still more cooperation, as does also her further care. The local child welfare agency or the Traveler's Aid will help, or the Red Cross, if she is a close relative of a service man.

The social agency will wire a corresponding agency in the girl's home town for a complete picture of her home life, and will help make travel arrangements if it seems wise to send her home. For the girls whose homes offer no refuge, some other living arrangements must be made. For those of working age, the local office of the U. S. Employment Service can help to find a job, or, if necessary, pre-job training. And this is one point where our present situation has advantages: finding a suitable job is far less of a problem than it used to be.

If court action cannot be avoided, the protection from publicity offered by the juvenile court might well be provided also for girls above juvenile court age. Public curiosity and scorn are no help to them; there is also the possibility that court proceedings will be watched by those "in the business" who are scouting for recruits to the ranks of commercial prostitution.

Elimination of two other practices still found in some courts would also help: One is "taxing" or fixed fines for revenue measures only; the other, straight suspended sentences too frequently contingent upon railroading the girl out of town. No community can wash its hands of responsibility by this too easy "out." Some form of probation or execution of suspended sentences must be worked out which makes it possible to see that all the steps necessary for rehabilitation are taken: legitimate employment, reporting regularly to a clinic, and so on.

All of these procedures represent a tremendously difficult and detailed task—a task that requires team work among a lot of different agencies, all of them overworked; some of them, perhaps, actually nonexistent if the community is one of our mushroom boom towns. Yet that is what it takes for intelligent, constructive handling of cases that reach police attention. The proverbial "ounce of prevention" nowhere pays higher dividends than here, where the cost must be measured in terms of the scars on the girl's or boy's own life, as well as of the burden upon the community.

Police have broken up red light districts because they were breeding spots for crime and disease. It is equally necessary to clean

up places and conditions that are breeding spots for delinquency. In protecting girls from exploitation the hot spots that need special attention include places of employment which violate age, wage, and hour laws: eating places which employ minors as "car hops," waitresses, hostesses or cigarette and hat-check girls, bowling alleys employing pin girls, and the like. The same sort of supervision should be given to commercial amusement places: juke joints or taverns which permit frequenting and patronage by minors; unsupervised public dance halls, particularly so-called "taxi" dance halls; movies which do not separate unattended children from adults, especially those which fail to police balconies and galleries, or admit unescorted children to late or midnight shows.

The law enforcement official has first-hand knowledge of these places and of the whole delinquency problem. Without his help, no community can get very far with it. But he is not a miracle man. Neither law enforcement officials nor community social agencies can make a preventive program work without community understanding and active, intelligent community support.

All over the country towns and cities are waking up to their responsibilities to teenage boys and girls. Many of them are trying, or at least considering, some sort of curfew system. This in itself may prove only a very limited and negative answer. It does not do much good to keep youngsters off the streets, if they have no place better to go. And if they do have places where it is all right to go, maybe a curfew will not be so necessary. These places where boys and girls can have a really good time—their own kind of good time—are something our Recreation Division knows a lot about, and has helped to bring about. After-hours' use of school buildings for social gatherings, full utilization of such community resources as church parlors and civic club rooms, have been things we have encouraged in season and out, ever since the start of our program. They are as much a part of a good community recreational program as athletic equipment and playing fields.

Cities all over the country have been applying this to teen-age needs and providing the boys and girls with a place of their own. These differ in management and auspices, but all the successful ones have a lot in com-

mon: the kids help to run their own show; it has a "come hither" name—"Teen Town" and "School Door Canteen" are fair examples; it is not stiff and formal; it offers a "bar" that serves soft drinks and milk, a good dance floor and a tireless, nickle-free juke box; and it is crowded.

This "dry night club" is all to the good. I hope it catches on widely and quickly from coast to coast. I would suggest only that it be carried one step further: While such clubs take care of the high school crowd, and the service men's clubs cater to the soldier in his twenties, there is a group that falls between and still has no place much to go except the juke joint and the cheap tavern. These are the young soldiers or sailors, hardly more than high school age themselves, and some who are a bit older but feel socially at a disadvantage with girls in their twenties. Churches and community organizations would be doing a real service if they would hang out a special welcome sign for these very young "young men" and their even younger "girl friends."

But recreation alone is not the answer, nor should it be considered solely as a preventive or palliative. It is part of the good life all children have a right to. Along with education, and health protection, and work experience, and sports and games, a healthy active social life has a place in every young person's life on its own merits. And along with these, it is a community responsibility. It is a pity that it took the restlessness and disruption of a war to prove that a place where young people can have fun without fear of temptation and disaster is essential, not merely now, but *all* the time.

For boys and girls whose lives are in the main on a fairly even keel, this one simple opportunity for normal social contacts may be all that is needed to round out the picture. For others, adjustment to the business of growing up in wartime may include a new slant on school with a more realistic chance of participating in or preparing for some sort of war service. For still others, help in getting a job or in adjusting to the new freedom and responsibility of working and having a pay envelope may be a necessary part of the answer. And now, as always, for those who have somehow missed the stability that a good home builds in childhood, the community must do its best to provide skilled, sympathetic redirection and rehabilitation.

The problem of the teen-age girl who stands in danger of becoming involved in promiscuity and prostitution is acute. We are right in recognizing it as an emergency, to be dealt with by the best means that can be put into effect quickly.

We shall work for a swift solution to immediate needs. But while we are doing that, let us remember that the problems behind this problem dig pretty deep into our family and community life. We cannot instil into children—our own children and the Nation's children—a spirit which we lack within our-

selves. What America and American patriotism stand for, above all else, is a sense of the dignity and worth of the individual. This faith is not something that materializes only on the battle front or in Fourth of July orations. If it is not a part of everyday living, it is not real. If it is real, we shall not need to preach to the children about it. They will know it. And they will need it. Their generation is growing up with a tough job ahead of them. They must have—all of them—the best preparation we can possibly give them. For they are the ones who must face the long challenge that lies beyond the horizon of the war.

THE TREATMENT OF COMPOUND FRACTURES

HUGH GRAY, B. S., M. D., F. A. C. S. Anniston, Alabama

High speed transportation, a marked increase in the pace of industrial activity, and the onset of war have increased the incidence of compound fractures among the population as a whole.

The treatment of a compound fracture is an urgent emergency due to the complications which may arise. Shock, hemorrhage, pyogenic infection; and, less frequently, gas gangrene, tetanus, embolism, amputation, and even death, are some of the conditions which may complicate recent compound fractures. Later on, osteomyelitis, delayed union, poor position, and disturbances of joint and muscle function, that is, disability, are prone to occur.

The ability to treat properly a compound fracture early so that it can be closed and handled as a simple fracture is of the greatest importance. Treatment of these fractures within six hours as the dead-line for closure without drainage can be safely done in the usual case. Some authorities contend that this may be done within eight to twelve hours, but, in my opinion, one would be safer in not closing those cases.

The recent advent of chemotherapy in the treatment of compound fractures has in no way minimized the fundamental principles involved. The first consideration is the patient as a whole; the second, the treatment of the fracture.

Read before the Association in annual session, Birmingham, April 20, 1943.

Splint them where they lie. The Thomas splint or Blake modification of it is used for the lower extremities. The Murray-Jones splint is used for the upper extremities. If these are not available, broom handles, boards, etc., may be used, taking care to splint the joints above and below the fracture. The lower extremity may be tied to its mate for immobilization. Just enough traction should be applied to immobilize and stabilize the fragments.

The patient should be kept warm. Bleeding, while infrequent, can usually be controlled by a pressure dressing. A tourniquet may be applied, if necessary, but should be released every fifteen to twenty minutes, and should be applied so that the splint will not be disturbed when it is released. Handling should be very carefully and gently done. A sterile dressing should be applied over the wound without the use of an antiseptic.

The patient should be promptly transported to the hospital in an ambulance. On arrival, shock, if present, is immediately treated. Morphine is administered unless a head injury has occurred. External heat and intravenous fluids, consisting, first, of glucose solution in normal saline, or blood plasma, or, later, whole blood, are administered. At this time, roentgenograms may be made with a portable apparatus if deemed necessary. In some cases x-rays may not be needed until after the operation has been com-

septic is applied.

pleted. At the time resuscitation is going on, the operating room is being prepared without loss of time. When ready, if the general condition of the patient will permit, he is placed on a fracture table in the operating room and the extremity immobilized in as good position as possible after administering a suitable anesthetic. Traction may be by adhesive or by the use of some skeletal apparatus.

The wound is covered with a sterile dressing, the area about it widely shaved, and then scrubbed scrupulously with green soap and water for ten minutes; the surface of the wound itself receiving the same treatment in a gentle manner. Flushing of the wound with copious quantities of normal saline solution is then carried out. No anti-

Debridement of the wound is done. A tourniquent is never used. The skin edges should be excised, then all devitalized subcutaneous tissue, muscle, fascia and bone fragments should be removed by sharp dissection. The depths of the wound should be carefully irrigated and explored, removing foreign matter and completely detached or definitely contaminated bone fragments. Conservatism should be practised in removal of bone fragments for they are an aid to union. Bleeding is carefully controlled.

The fracture is then reduced and fixation done by appropriate means. In transverse fractures, foreign material may not be necessary. Steel wire, vitallium plates, kirschner wire traction, or a Thomas splint with plaster gutter may be used when indicated. A point in bone plating: Be sure to have careful and close apposition of the bone fragments. Otherwise delayed union may occur. In certain cases the use of the Roger Anderson apparatus or the Haynes splint with the use of bone screws may be used with satisfaction.

Before closure of the wound it is dusted carefully with sulfanilamide, getting it into all the crevices of the wound, using five to twenty grams of the drug until the surface of the wound has a hoar frost appearance. Some clinics use a mixture of sulfanilamide and sulfadiazine. Where cultures of the wounds can be made, consideration of the use of a new drug, penicillin, should be considered in staphylococcic infections when it becomes available. The reactions following the use of the sulfonamides in these cases

have been very rare and disappear promptly upon discontinuing the drug.

If the wound is of less than six hours' duration, it is closed by suturing the skin only, without drainage, if this is possible without too much tension. Lateral incisions may be used to reduce the tension of closure. After six to eight hours, and if there has been wide contusion, or if there has been inability to completely debride, or if severely contaminated, or if gas organisms are found, or if already infected, or in war wounds as a rule, open treatment is indicated. The Orr method is used, applying a sulfonamide, packing the wound with vaseline gauze, a dressing, and applying a plaster cast preferably, or some other means of immobilization. The Carrel-Dakin technique, as popularized during the last war, has its adherents.

The blood concentration of the sulfonamides is sufficient for forty-eight to seventy-two hours in closed cases, considerably less in open ones. Therefore, it is necessary to administer sulfadiazine or sulfathiazole by mouth for five to seven days in one gram doses every four hours.

Blood concentration studies of the drug should be made at intervals. The administration of combined tetanus-gas gangrene antitoxin in prophylactic dosage is indicated. At this time the question of x-ray therapy for the prevention and treatment of gas gangrene infections should be mentioned. According to the Massachusetts General Hospital authorities, Bacillus welchii infections are not benefited, and the other gas infections recover any way. In a certain percentage of cases the question of amputation will arise immediately. It is important that such cases be promptly recognized because delayed amputation results in serious complications: osteomyelitis, gas gangrene, tetanus, poor weight-bearing stumps, etc.

SUMMARY

1. As H. Winnett Orr has aptly said, "The greatest service that a surgeon can render to the compound fracture patient is to (a) protect him against further injury; (b) restore all the parts to correct anatomic relationship at the earliest possible moment; (c) provide adequate drainage for all contaminated or infected tissue areas, including the bone; (d) maintain correct length and position, not relatively, but absolutely, for physiologic function during healing and use

of the injured part upon recovery; and (e) protect the patient against trauma, against infection, and even against himself until he has obtained as good a result as his injured parts will permit."

2. In order to carry out the above, adequate first aid, early and efficient treatment of the primary wound, the use of chemotherapy, proper immobilization and aftercare are indicated.

3. Measures to achieve this result have been briefly discussed.

DISCUSSION

Dr. Earle Conwell (Birmingham)—Dr. Gray's presentation has again emphasized the cardinal principles in the treatment of compound fractures, said principles being those which we have had impressed upon us in the past and which some of us have tried to impress upon the profession for many years. The discussion is very timely and can not be presented too often.

I wish to say that Dr. Gray's talk only considered the treatment of compound fractures in civilian life which, of course, before this audience is most appropriate. I have no criticism to make of any part of Dr. Gray's presentation. However, due to the time allotted Dr. Gray for his discussion, he could not bring out a few points which I wish to discuss. First, as regards the anesthetic: We are more conscious today of an-

esthesia than ever before and we should be. The anesthetic is as important as surgery itself, especially when most of the patients encountered who have compound fractures are usually in a state of shock. Pentothal sodium has found its place in anesthesia today and I feel that in most instances it is the preferable anesthetic, especially where relatively short anesthesia is demanded; that is, an operative procedure around an hour's duration. As a matter of fact the average compound fracture with the usual shock condition of the patient will not tolerate much longer surgery.

I have not had occasion to use sulfadiazine in any of my compound wounds. However, the efficiency of sulfathiazole and sulfanilamide used locally in the compound wound can not be overemphasized. I feel that the local implantation of the sulfonamide drugs is of far more importance than the oral administration. Jensen and Nelson (Surg., Gynec. & Obst., July 1942) emphasized that sulfanilamide powder implanted in the wound generally finds its way into the general circulation, reaching a maximum level in the blood after 18 hours and finally disappearing in about 60 hours. They also showed that a local implantation of sulfanilamide in a compound wound gives a concentration in the area of contamination 80 times that obtainable by systemic administration. They also brought out the point that the antibactericidal action of sulfanilamide is directly proportional to the temperature locally and it is accordingly suggested that the temperature of the wound be kept at 98.6 F. or above during the first 24 to 36 hours.

THE VENEREAL DISEASE PROBLEM FROM THE AIR CORPS STANDPOINT

CAPTAIN G. W. LARIMORE Medical Corps, Army Air Forces Maxwell Field, Ala.

Venereal disease has plagued virtually all of the armies in all of the wars of history and this war has certainly proved to be no exception. In fact, venereal disease presents greater problems in these days of highly mechanized warfare than in the days of old when the gonorrhea of the spear-bearer or the foot soldier doubtless interfered comparatively little with his military duties.

Now, when peak physical fitness is required of specialized combat troops, such as those of the Air Forces, infection with venereal diseases results in a serious handicap to the successful operating efficiency of these troops.

Read before the First Conference on Wartime Venereal Disease Control, Montgomery, February 26, 1943.

Venereal Disease Control Officer, Southeast Training Center.

The concern of the Air Corps in the venereal disease problem stems from two main considerations: the first of these is similar to the concern of any other branch of the armed service, for while the Air Forces are engaged in flying the major fraction of our personnel consists of service troops engaged in keeping the flying personnel in the air.

The fact that our truck-drivers, for example, wear an Air Corps emblem on their sleeves has certainly conferred no immunity against the venereal diseases. Last year in our Command we lost a total of nearly 30,000 hospital days because of venereal disease, this in spite of what we considered rather strenuous efforts at venereal disease control and intensive measures aimed to improve our treatment so as to get the infected individual back on duty as soon as possible.

The second factor represents the problems of venereal disease control peculiar to flying personnel. All individuals under treatment for *any* of the venereal diseases must be relieved from all flying duties during such treatment and for a period afterward. For example, the physiologic effects of the sulfonamide group of drugs employed in the treatment of gonorrhea and chancroid are such as to contraindicate their use in individuals while on flying status.

While the infantryman, for example, can to a large extent carry on his normal duties during treatment with the sulfonamides, the pilot and his crew-mates must be grounded during the time any of these drugs are being taken and for a minimum of six days thereafter. Hence, self-treatment or "secret" treatment at the hands of a private physician in the adjacent community without the knowledge of the Flight Surgeon, and with the flier continuing his normal duties, is a very hazardous procedure.

It is to the credit of private physicians in Alabama communities adjacent to our flying fields that they have for the most part cooperated splendidly and have realized the dangers incident to the use of the sulfonamides in men engaged in flying.

A similar situation exists with respect to the treatment of syphilitic infections in that individuals so infected are at the present time "grounded" during the period of treatment. Thus their flying services are lost to the Air Forces for a considerable period of time. While graduate flying personnel may be utilized in ground duties to some extent, the effect of such time loss on the training of the aviation student is disastrous in that the interruption to his flying training is so great as to virtually eliminate him from present consideration in the flying training program.

Because of the expense involved in training flying personnel, each air-crew member or aviation student represents a considerable investment on the part of the government. The loss of such an investment for even a comparatively short time represents a major financial blow to the over-all war effort.

Similarly is the loss incurred through the impaired efficiency of a combat crew team when one of its members is absent because of venereal disease. Difficult to measure in dollars and cents, this loss may nevertheless be a tragic one, because the safety of the

plane and the lives of its crew may depend, at a crucial moment, on the almost automatic split-second functioning of its crew which has resulted from long operation as a unit. If one of the members is a venereal disease casualty, this valuable timing and unit-function is upset.

What have we in the Air Corps done to minimize these dangers to our training and operations program? We have set up as our objective: "To reduce the venereal disease incidence and the time lost from venereal disease among our personnel."

While there is some overlapping, our venereal disease control activities in this connection tend to fall into two groups: those aimed at eliminating foci of venereal infection in the extra-cantonment areas, and those dealing directly with the troops. In the first group we are concerned with the suppression of prostitution and the elimination of segregated areas of possible infection surrounding our military establishments. Further, by supplying case-contact information, we cooperate with public health authorities in getting infected civilians under treatment.

In those activities associated directly with the troops we seek to provide our soldiers with wholesome recreation to occupy their off-duty time. By the use of lectures, films, pamphlets, posters and other educational media, we teach our men about the venereal diseases, and the methods of avoiding them. We provide for the availability of venereal prophylaxis facilities both by prophylactic stations and individual materials. Finally we direct our treatment so as to get the venereally infected individual back on duty as soon as is possible in keeping with good therapeutic and public health practice.

SUMMARY

- 1. Venereal disease has been a plague on virtually all the armies of history.
- 2. In the present highly mechanized warfare the problems presented by venereal disease are intensified.
- 3. Particularly is this true of the Air Forces where the conflict between the physiologic demands of flying and the effects of treatment for the venereal diseases necessitates the grounding of aviation personnel during such treatment and for a period thereafter.

- 4. This absence from flying duties of the venereal disease "casualty" represents a serious financial and tactical loss to our war effort.
- 5. The venereal disease control program set up by the Air Forces has as its objective the reduction of the venereal disease incidence, and the time lost from venereal dis-

ease among our personnel.

6. The venereal disease control activities tend to fall into (1) those associated with extra-cantonment problems, such as suppression of prostitution, contact tracing, etc., and (2) those directly concerned with the troops, such as recreation, education and prophylactic facilities.

ANAL FISTULA

W. J. ROSSER, M. D. Birmingham, Alabama

Since anal fistulas and anal abscesses are so closely related, the latter condition being merely a part of the development of the former, they will be discussed together.

DEFINITION AND TERMINOLOGY

By the term anal fistula is meant a fistulous tract that arises not merely in the anal canal but in some particular part of the anal canal and ends in another opening usually in the buttocks, perineal region or some neighboring viscus, as the terminal colon, vagina or bladder. There must always be two openings, one at the point of origin and the other at the point of termination. Some authorities speak of incomplete internal fistulas, incomplete external fistulas, etc. These should probably best be called sinuses. And since the internal opening is always in the anal crypts or crypts of Morgagni and the other opening may be either external or internal (bladder, rectum or vagina), it is best to call the openings primary and secondary.

INCIDENCE

At Mayo Clinic one out of every seventeen patients admitted have a complaint that requires a proctoscopic examination. One out of every twenty-three of these, or about 5%, of those that had anorectal disease had anal fistula. Some authorities place this figure as high as 25%. It occurs most often between the ages of 20 and 60, the average being about 42. It has been found in children under 10.

Anal fistula is sometimes seen by a doctor in the abscess stage, but a large percentage of patients have had the trouble from three months to a year before consulting a physician, the primary abscess having ruptured

Read before the Jefferson County Medical Society, Birmingham, May 10, 1943.

spontaneously and continued to drain as a fistula. A few put up with this condition as long as 20 years.

ETIOLOGY

As to the causative organism, any of those that inhabit the lower bowel are capable of causing abscess once they gain entrance to normal tissue. Any trauma or accident that causes entry of any germs into or about the anal crypts may cause abscess and fistula; and it is in and about the anal crypts, therefore, that all internal or primary openings of fistulas are found, and any operation that does not connect the primary and secondary openings is doomed to failure.

Since it was once thought that a majority of anal fistulas were tuberculous many attempts have been made to prove or disprove this. To do this all specimens from several series of cases operated on for fistula have been cultured and injected in guinea pigs. The results have shown that about 10% of rectal fistulas are tuberculous. In none of these cases was evidence of tuberculosis found in the tissue removed at operation unless the patient harbored some focus of the disease somewhere else in the body. Buie states that although there is some possibility that primary tuberculosis may involve the structures of the anorectal region, it probably occurs so rarely as to be a pathological curiosity.

REVIEW OF ABSCESSES

Now let us go back in the process a little and see how anal fistulas are formed. They are always preceded by an abscess in this region. These abscesses may be roughly divided into supra-levator, or deep, and infralevator, or superficial.

The supra-levator or deep abscesses are: 1. right pelvi-rectal, 2. left pelvi-rectal, each being bounded below by the inclined levator ani muscle, above by the peritoneum and medially by the rectal wall; and 3. retrorectal abscesses, bounded anteriorly by the posterior rectal wall, posteriorly by the sacrum and coccyx, inferiorly by the levator muscle and laterally by the rectal stalk or lateral rectal ligament.

The infra-levator abscesses are: Right ischio-anal and left ischio-anal, usually called ischio-rectal abscesses. These are bounded on either side by the levator muscle above, laterally by the obturator fascia, obturator internal muscle and ischial tuberosity, medially by the anal wall, posteriorly by the gluteus maximus muscle and sacrotuberous ligament and anteriorly by the transverse superficial perineal muscle and perineal fascia.

These spaces are normally filled with loose, areola tissue and offer little resistance to various ramifications of pus, and once their limiting boundaries are invaded and ruptured the infection may go from one space to another or rupture through the skin of the peri-anal region or into any neighboring viscus.

The formation of fistulas may be divided into 4 stages: 1. This is the stage of cryptitis, because the crypts are always invaded. With the infection the usual swelling and edema occur. An exudate forms which may seal off and close the crypt and thus the beginning of an abscess is formed. 2. In this stage the burrowing process begins. It may go just beneath the skin and superficial to the sphincters, and is usually called the subcutaneous variety. It may force its way through the body of the external sphincter. It may pass between the internal and external sphincters, and lastly it may go directly through the internal sphincter. Thus it is seen that by this burrowing process any of the spaces described above may be invaded and the third or abscess stage reached. 4. Then the fourth or fistula stage occurs either by spontaneous rupture or surgical opening.

The ischio-anal or ischio-rectal abscess is by far the most frequent. This is one of the infra-levator or superficial abscesses described above and is usually not difficult to diagnose. It is evidenced by discomfort or pain in the tissues around the anus, and may be ushered in with chills and fever. Local pain increases and a swollen area develops, which is excruciatingly tender. The patient is unable to sit, walk or lie down in comfort, and bowel movements are painful. The area eventually goes on to redness and fluctuation. It may rupture spontaneously through the skin or burrow around to the other side or to one of the deep spaces if not opened surgically. But whether it ruptures spontaneously or is opened surgically, a draining tract is left. If seen by a physician it should be opened as near the anal orifice as possible, not to involve any of the sphincter fibers, in order to make as short a tract as can be had.

The supra-levator abscess is more difficult of diagnosis and sometimes goes undiagnosed for a long time. There is usually a dull ache or feeling of weight in the rectum. The pain is increased only slightly by bowel movement. It lies for the most part above the anorectal line, the point above which there are no somatic sensory nerves. Then there is fever, headache and general malaise.

The diagnosis is made by digital rectal examination, when a boggy, fluctuating mass is felt above the levator muscle. In the female, recto-vaginal examination is of value.

If neglected, these abscesses may rupture into the bladder, rectum, urethra, vagina, peritoneal cavity and sometimes into the ischio-rectal fossa. Treatment is incision and adequate drainage, an incision being made one to two inches lateral to the anal orifice and, with one finger in the anal canal, a closed hemostat is introduced in the incision and carried upward parallel to the finger through the levator muscle. When pus escapes the hemostat is opened and the pus allowed to escape. The initial skin incision is enlarged to permit drainage. The remaining fistulous tract is taken care of at a later date.

TYPES

Pathologically all fistulas are complete, although clinically we may be unable to demonstrate an internal opening. It is not uncommon in chronic cases, especially where improper or no treatment has been given, for the first external opening to become closed temporarily, the abscesses breaking through in one or several places in the peri-

anal skin, perineum, buttocks or thighs. There may be two internal or primary openings with two or more secondary openings. The horse shoe fistula is one where there is only one internal opening with multiple openings on both sides of the peri-anal region. Then there is the type that is commonly called peri-anal lymphatic abscess. This is a condition where there is inflammatory swelling with abscess on the perineum with no demonstrable internal opening. But, as Buie says, this cannot be considered as an exception to the rule because the primary origin and termination are connected by lymphatic chains rather than by a definite, fistulous tract.

All fistulas begin with infection in the anal crypts and about 80% of the primary openings will be found on the posterior surface near the anorectal line. In a large percentage of cases there will be only one internal opening, no matter how many external openings there may be. Goodsall said that when more than one opening is met on the same level they are usually the internal openings of separate fistulas. The fistulous channel may be straight or tortuous, single or multiple, depending on the tissue involved, its point of origin, and its duration.

SYMPTOMS

The most frequent and prominent symptom of fistula is discharge. If recent it may be profuse, purulent and fetid. Not uncommonly, feces and flatus escape through the external opening. If it has existed for some time, the drainage may be thin and watery. At times the discharge may be blood streaked and the stools may be streaked with blood. Of course, if it communicates with some adjacent organ, the characteristic discharge is indicative of the organ involved. If the external opening becomes stopped, as frequently happens, pus will in time accumulate and the burrowing process may begin all over again, another abscess form with excruciating pain and finally rupture in another place. If, however, the tract continues to drain, pain is not an important symptom. There is often more or less excoriation of the peri-anal region due to the irritating discharge, with sometimes resultant pruritis.

DIAGNOSIS

Given a history of peri-anal abscess, followed by drainage from one or more open-

ings in this region, one can be almost positive of anal fistula. When the part is inspected the external opening is noted as a small depression in the skin or a scar of a former incision. There may be one orifice surrounded by a small amount of granulation tissue and exuding pus on pressure. Then there may be one or more scars about the gluteal region, peri-anal region, perineal region or thigh. One or more of these may be exuding pus. There may be one on either side of the anal orifice, as in horseshoe fistula.

If the fistula has existed for some time a fibrous band may be felt beneath the skin leading from the external to the internal opening. When the gloved finger is inserted into the anal canal, in most cases the internal opening can be felt as a depression when the finger tip reaches the anorectal line. In most instances it will be felt on the posterior wall.

If the patient is seen in the abscess stage, the condition must be differentiated from prolapsing internal hemorrhoids or edematous external hemorrhoids or thrombosed external hemorrhoids. It should be remembered, however, that any of these conditions may coexist, and, in view of the different treatment which each would require, care should be exercised in making the diagnosis.

Another condition which might be confused with anal fistula is pyoderma of this region. The diagnosis often depends on anoscopic examination, when the anal crypts can be carefully inspected. Even then it is not always possible to find satisfactory evidence of the primary focus. In most of these cases, however, if the anal crypts in this region are excised, a cure will be effected.

In continuing our effort to make a diagnosis we may find the tract so tortuous that it is sometimes difficult to pass a probe from the external to the internal opening, but if this can be done you can offer the patient a more cheerful prognosis. At times it is difficult or impossible to locate the internal opening, and excessive probing should not be attempted without anesthesia. Injection of different dyes into the tract have been used in an attempt to locate the internal opening, but I have not found any of them very valuable. I find it better to wait until the patient has been anesthetized and inject hydrogen peroxide into the external open-

ANAL FISTULA

ing and many times it can be seen bubbling out into the internal opening.

ANESTHETICS

Before going further let me say a few words about anesthetics. There are several types that can be used in proctologic surgery. I will not go into the technique of administering any of these but merely mention a few of them.

In my experience caudal anesthesia has proven itself to be the most satisfactory for anorectal surgery, both from the standpoint of the surgeon and the patient. I use 30 to 50 cc. of a 1% metacain or novocaine solution injected slowly over a period of about 10 minutes. I prefer metacain because it seems to be less toxic. Second in preference is low spinal, using $\frac{1}{2}$ to 1 cc. of liquid pontocain. It is more easily and quickly administered than caudal and gives a very satisfactory anesthesia but some patients object to or even refuse spinal anesthesia. There are probably more untoward results following the use of spinal than caudal anesthesia if caudal is given properly. In either case the anesthetist should always have an ampule of ephedrine handy, and if a lowering of blood pressure occurs, it is usually controlled readily by subcutaneous injection of 1/2 to 1 cc.

Occasionally a patient is so nervous or apprehensive, or for other reasons, it is desirable to have him asleep. For such patients sodium pentothal intravenously, with or without local infiltration of metacain, 15 to 25 cc. in the caudal canal, is useful. It is a little difficult to give since the patient is lying face down. I mention ether and other inhalation anesthesias only to say that I never give them. Local infiltration of 1% novocaine may be used for minor operations.

TREATMENT

Any treatment other than surgical treatment is usually only temporary or palliative, and should be reserved only for those cases in which the physical condition of the patient is such as to contraindicate surgery. I will confine myself here to the surgical treatment.

For our purpose we will take a typical case of anal fistula with the primary or internal opening in the posterior anal wall. The patient is placed on the table in the ventral prone position. The hips are elevated

slightly in order to bring the parts more prominently into view. Either the spinal anesthesia has been given before or the caudal is given now as described above.

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The parts are retracted so that the posterior anal wall is brought into view. By using a bent silver wire probe it is usually possible to insert it into the internal opening even if a little force must be used. Then by manipulating it in different directions carry it through the fistulous tract and out through the secondary opening. Then an incision is made through the tissues down to the probe until the entire tract is laid wide open.

Sometimes this incision passes through part or all of the external sphincter muscle. I think it better if this incision is made at right angles to the sphincter. Some think it safer in those cases where the entire sphincter muscle must be divided to make a two stage operation of it. The first stage is done exactly as outlined above except that the incision is carried down to the sphincter and a seton tied to the probe and pulled through the tract beneath the muscle and tied lightly. This is allowed to remain in place for two weeks, giving time for scar tissue to form, when the muscle is severed. The second stage can be dispensed with if enough time has elapsed to allow considerable scar tissue to form around the tract, thus partially immobilizing the muscle.

If the probe cannot be inserted into the internal opening it is necessary to begin at the external opening. Sometimes it will be possible to carry the probe or grooved director all the way to the anal canal. Care should be taken to stay out of healthy tissue. It may be necessary to insert the director for a short distance, cut down to it, then insert it in a different direction. By curetting the tract as you go you can usually see the soft, gelatinous material that marks the fistulous tract. When the tract is laid open the skin edges are trimmed away, forming an open ditch and allowing healing from the bottom outward.

All fistulas, unfortunately, are not as simple as outlined here and the more complex varieties may present very much greater difficulties. Following high abscesses of the supra-levator variety, the fistulous tract will course from its internal opening upward to the abscess cavity, then angulate downward to the buttocks, perineum, etc. Usually in this type a probe can be inserted through the

internal opening to the cavity, then another through the external opening meeting the first probe in the cavity. Then an incision is made through the anal wall, sphincters and all the tissues until the probes lie free in the deep, open wound.

In another type a subsidiary tract is found to have penetrated the levator muscle into the pelvi-rectal space, formed an abscess and finally formed a secondary opening in the upper rectal wall by perforating into it. Here it is necessary to carry the incision through all those tissues between the subsidiary tract and the rectal wall to the secondary opening, the rectal wall itself being split from the primary opening in the anal canal to the secondary opening in the rectum. This leaves a deep open wound, but unless it is done, one cannot be sure of a cure.

Then there are the peri-anal abscess and sinus which I mentioned a while ago. When these abscesses are opened there is left a draining sinus with no demonstrable internal opening. They usually occur on the perineum. The draining tract is evidently kept active by infection carried along by the lymphatic chain in this region. These tracts can usually be cured by excising all the anterior wall crypts along with the skin from the pectinate line out to the external sinus.

These are just a few of the more or less typical cases encountered in one's experience with rectal disease. No two cases are exactly alike and each case must be more or less individualized.

POSTOPERATIVE CARE

The postoperative care following any operative procedure about the anorectal region is very important. I might even say it is as important as the operation itself.

It was once thought that it was necessary to prevent bowel movement for several days following one of these operations, especially following one for anal fistula. Most modern proctologists, however, do not agree with this idea.

The procedure will vary somewhat with each individual and with individual physicians. For the first 24 to 48 hours following the operation enough morphine is prescribed to keep the patient comfortable. Twenty-four to thirty-six hours following the operation all dressings, which usually include three or four strips of rubber dam and possibly a small strip of vaseline gauze

in the anal canal and a tight pressure bandage over the buttocks, are removed and the patient given hot sitz baths every 4 hours. If equipment for giving hot sitz baths is not available, hot moist dressings may be used. The heat, especially the hot sitz baths, is very gratifying to the patient and in many cases no opiates are required after the dressings are removed. This, too, will vary with various individuals.

The patient is seen and the wound inspected by the physician at least once a day. If there has been no bowel movement at the end of 48 hours, or three days at the outside, a warm water enema is carefully given, using a soft rubber catheter in the anal canal. The patient is allowed to sit in hot water after each bowel movement. The wound is then cleansed and dressed with some soothing ointment. Careful attention is given to the wounds to insure their healing from the bottom outward. The gloved finger is inserted carefully into the anal canal every two or three days to break up new adhesions that might later cause stenosis.

The patient is allowed regular diet after the first day, and every encouragement given for regular bowel movement. Mineral oil or petrogalar is given each night and very rarely a gentle laxative. If an impaction of feces is allowed to form, much pain will be caused the patient in breaking it up and much grief to the physician. Everything possible should be done to keep the pain down to a minimum, for if any of you have ever undergone an operation in this region of your anatomy I not not need to remind you of the extreme sensitiveness of these parts.

Usually the patient is allowed to go home on the fifth to the seventh day and is then seen in the office every other day for a week or ten days then every third to fifth day. The examining finger should be inserted at each visit to see that there are no constricting bands and to insure patency of the anal canal. Again in the first few days this should be done very gently. The patient should be seen until all wounds are entirely healed.

In closing let me summarize surgical treatment of anal fistula in the words of Buie:

- 1. The primary opening must be found.
- 2. The fistulous tracts must be traced.
- 3. Structures external to the primary opening and the fistulous tract must be cut

away so that the fistulous tunnels are converted into open ditches throughout their entire course.

4. Measures must be adopted during and following the operation to insure that the cavity will heal from within outward.

ENVIRONMENTAL SANITATION AND POSTWAR PLANNING

T. H. MILFORD, M. S.

Chief Sanitary and Public Health Engineer State Department of Health Montgomery, Alabama

A postwar program of some sort is inevitable and whether it be initiated by a Federal Works Reserve, a state planning commission, or other like agency, the state and county health departments will doubtless be called upon, and rightfully so, for certain basic data indicating the need for public health projects worthy of federal or other funds which might be gratuitously offered.

The obtaining of funds, if and when they are available for any construction project, will no doubt require not only adequate justification but also the preparation and submission of satisfactory details of construction, financing and operation.

Basic data, largely of a preliminary nature, are available in the Bureau of Sanitation files on a majority of the needed municipal waterworks and sewerage projects in Alabama. These data are in the form of letters, reports, memorandums, plans and specifications. They have been obtained from municipal, state, and county officials, consulting engineers, architects, and various state and federal agencies. The Bureau's engineers are in an excellent position to obtain these data both in the office and field through correspondence and personal contacts. An effort is made to promote the planning of projects and the preparation of adequate plans and specifications at every opportunity.

Similar data on public health projects, including school, camp, and other general sanitation and malaria control projects requiring the installation of privies, private and semi-public water supplies, drainage and screening, are available to some extent. This information is in the form of letters, reports, memorandums, and sanitary and malaria surveys. However, it is lacking,

relatively speaking, considering the detail and extent to which it is available. That is, only a general knowledge of where much needed sanitation exists and a rough estimate of cost is most commonly available in the state and county health offices. For example, in the war areas where some eleven towns and cities are involved there is an estimated need for nearly 16,000 privies which might be constructed for approximately \$700,000 (including supervision) under a set-up requiring federal aid. Such general information is helpful but not sufficient.

With these facts in mind it is evident that sanitation officers should make every effort to find time for making sanitary and malaria surveys, and securing other pertinent data felt essential for postwar planning. If and when such a postwar program is instigated, a well-prepared county health department will not only receive benefits directly but will be an asset to, and materially strengthen, the whole state health organization, resulting in public health protection to the people of Alabama. In addition, information obtained for this purpose, including maps, charts, and up-to-date tabulated records of accomplishments and existing conditions in a county, should prove invaluable at any time. With these data, a county health department is in a position to show the people of the county the exact status of sanitation in the county and aid them in making the most needed corrections.

Finally, since environmental sanitation is the backbone of preventive medicine, its foundation cleanliness, and its aim a clean healthful environment, it is quite conceivable that it will be considered by the dispensers of federal funds to be of prime importance in any postwar program.

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USE AND ABUSE OF DIGITALIS

"Digitalis has been of inestimable value in certain types of heart disease, but it is frequently misused. After the initial break in compensation a patient is often given sufficient digitalis to control his distress but is permitted to continue his usual activities. The drug, so used, is comparable to a whip applied to a tired horse. With proper management, complete and adequate bed rest with other medication and proper limitation of subsequent activity, the use of digitalis may be postponed for months or years. It may then serve more effectively when actually needed, the integrity of the heart muscle having been conserved."

The above is one of the opening paragraphs of the article by Carter¹ on this everpresent subject. Carter holds that digitalis should be employed in the following conditions: "1. Congestive heart failure, with or without auricular fibrillation, flutter or auriculoventricular block. 2. Auricular flutter or fibrillation with rapid ventricular rate where quinidine was not given promptly, proved ineffective or was contraindicated. 3. Paroxysmal nocturnal dyspnea (cardiac asthma). 4. Dyspnea on slight exertion

(left ventricular failure). 5. Tonic doses for mild cardiac impairment associated with renal disease and the senile heart. 6. As a therapeutic test to detect mild congestive failure." And the Chicago observer wisely reminds us that "the younger rheumatic patient with rapid heart rate responds more favorably than does the older, arteriosclerotic patient with slower rate."

The author tells us that "digitalis is not indicated in coronary thrombosis without heart failure." And also that it is of no value in simple tachycardia, in neurocirculatory asthenia and in the tachycardia of hyperthyroidism. "Digitalis has very little effect on the tachycardia accompanying fever. Unless cardiac failure is present or imminent it is not indicated in the infectious diseases. Its use in pneumonia is not only ineffective but may be injurious. . . ."

"Nausea and vomiting are the most common early toxic manifestations. These may be preceded by anorexia, headache and vertigo. All may be averted or promptly relieved by stopping the drug." And "signs of toxicity require that digitalis be stopped for twenty-four hours or until these signs disappear. Toxic effects can be minimized by smaller doses, by longer intervals between doses and by more accurate knowledge regarding previous digitalis medication. Fatalities rarely occur with divided doses by mouth. Usually death has been due to a single massive dose or to large doses intravenously."

Carter has little patience with what he terms "obsolete dosage formulas" and asserts that "the effective dose is that by which a certain effect is produced." And also we are informed that "digitalis orally meets therapeutic needs satisfactorily in more than 98 per cent of cases. Indiscriminate parenteral administration is to be discouraged."

The Chicago clinician has dealt with his subject well and in a down-to-earth and commonsense manner that will appeal to most practitioners who cannot be affiliated with great medical centers and clinics, but who must nevertheless care for the overwhelming majority of the sick. But the aforementioned practitioners can at least overcome some of the handicaps under which they labor by keeping well up to date and by observing their patients more closely and by constantly being on the alert for un-

^{1.} Carter, J. Bailey: Uses and Abuses of Digitalis, M. Clin. North America 27: 143 (January) 1943.

favorable reactions to digitalis and other potent drugs.

Lack of space precludes a complete review of Carter's excellent contribution but herewith is included his summary, a splendid example of the condensation of a weighty subject into a single paragraph:

"Rarely, except in heart failure, is digitalis of value. Indications for its use are not primarily related to the presence of valvular lesions, to heart rate or to cardiac mechanism, but to the state of the cardiac muscle. Proper management of the initial break in compensation often delays the need for digitalis. Seldom is heart failure associated with another condition prohibiting its use. Cardiac failure is rarely an emergency. When it is, digitalis may be given intravenously, but when so given it is dangerous. It is best given orally as the powdered leaf or tincture. Optimum dosage cannot be determined by formula, hence the daily maintenance dose must be determined individually. It is important to know when to stop digitalis therapy. Certain patients with heart failure cannot be benefited by the administration of digitalis."

THE WAGNER-MURRAY-DINGELL SOCIAL SECURITY PLAN

AN ANALYSIS PREPARED BY THE BUREAU OF LEGAL MEDICINE AND LEGISLATION, AMERICAN MEDICAL ASSOCIATION

Reprinted from The Journal of the American Medical Association, June 26, 1943.

Referred to generally as embodying an Americanized Beveridge plan but offered in Congress, according to Senator Wagner, "simply as a basis for legislative study and consideration," legislation was introduced, June 3, in the Senate by Senator Wagner, New York, for himself and Senator Murray, Montana, and in the House by Representative Dingell, Michigan, proposing to create a Unified National Social Insurance System (S. 1161; H. R. 2861). The Senate bill is pending in the Senate Committee on Finance and the House bill in the House Committee on Ways and Means.

The system proposed to be created will be financed in general from a trust fund established by a 6 per cent employee and a 6 per cent employer contribution on all wages and salaries, up to the first \$3,000 a year, paid or received after Dec. 31, 1943. Included in this proposed system will be a system of public employment offices, increased old age and survivors' insurance benefits, temporary and permanent disability insurance benefits, protection to individuals in the military service, increased unemployment insurance benefits under a federalized unemploy-

ment system, maternity benefits, medical and hospitalization insurance benefits, a broadening of the basis of the existing social security program to embrace some 15.000,000 persons now excluded, such as farm workers and domestic servants, employees of nonprofit institutions, independent farmers, members of the professions and other self-employed individuals, and a unified public assistance program. There follows an analysis of those provisions of the ninety page bill that appear to be of particular concern to medicine.

DISABILITY BENEFITS PLUS MEDICAL CARE

The bill broadens the existing social security coverage by providing for the payment of cash permanent disability benefits to beneficiaries. In addition to such cash benefits, the Social Security Board, through the Surgeon General of the Public Health Service, will be authorized to make provision for furnishing medical, surgical, institutional, rehabilitation or other services to disabled individuals entitled to receive insurance benefits, if such services will aid in enabling such individuals to return to gainful work. Such services, it is contemplated, will be furnished "by qualified practitioners and through governmental and nongovernmental hospitals and other institutions qualified to furnish such services." administering the provisions of this particular section of the bill, the Surgeon General and the Social Security Board will follow as far as applicable the procedure outlined by another section of the bill relating to medical, hospitalization and related benefits generally.

MEDICAL, HOSPITALIZATION AND RELATED BENEFITS IN GENERAL

Section 11 of the bill proposes to add a new title to the Social Security Act, title IX, providing for a federal system of compulsory medical and hospitalization insurance for all persons covered under the old age and survivors' insurance, and their dependents. Each insured worker and his dependent wife and children will be entitled to receive general medical, special medical, laboratory and hospitalization benefits. In addition, the system is made elastic so that it may be enlarged in its coverage to admit other beneficiaries on a voluntary basis, such as self-employed individuals and employees of states and political subdivisions.

In order to appreciate the broad scope of this new title, consideration must initially be given to the meaning of the words and phrases used in it. The term "general medical benefit" means services furnished by a legally qualified physician, including all necessary services such as can be furnished by a physician engaged in the general practice of medicine, at the office, home, hospital or elsewhere, including preventive, diagnostic and therapeutic treatment and care, and periodic physical examinations.

The term "special medical benefit" means necessary services requiring special skill or experience, furnished at the office, home, hospital or elsewhere by a legally qualified physician who is a specialist with respect to the class of service furnished.

The term "laboratory benefit" means such necessary laboratory or related services, supplies or commodities, not provided to a hospitalized patient and not included as a part of the general or special medical benefit, as the Surgeon General of the United States Public Health Service may determine, including chemical, bacteriologic, pathologic, diagnostic and therapeutic x-ray and related laboratory services, physical therapy, special appliances prescribed by a physician, and eye glasses prescribed by a physician "or other legally qualified practitioner."

The term "hospitalization benefit" means (1) not less than \$3 and not more than \$6 for each day of hospitalization, not in excess of thirty days, which an individual has had in a period of hospitalization; (2) not less than \$1.50 and not more than \$4 for each day of hospitalization in excess of thirty in a period of hospitalization; and (3) not less than \$1.50 and not more than \$3 for each day of care in an institution for the care of persons suffering from chronic ailments. The exact amount of the benefit, between the minimums and maximums stated, will be fixed by the Surgeon General of the Public Health Service after consultation with the National Advisory Medical and Hospital Council to be created by the bill and after approval by the Social Security Board. In lieu of such compensation, the Surgeon General may, after approval of the Social Security Board, enter into contracts with participating hospitals for the payment of the reasonable cost of hospital service, at rates for each day of hospitalization neither less than the minimum nor more than the maximum applicable rates previously mentioned. Such payments will constitute full reimbursement, the bill provides, for the cost of essential hospital services, including the use of ward or "other least expensive facilities compatible with the proper care of the patient."

PANEL OF PHYSICIANS TO SUPPLY MEDICAL CARE

The Surgeon General will be required to publish and otherwise make known in each area to individuals entitled to benefits the names of general practitioners who have signified their willingness or desire to participate in the insurance program. Any legally qualified physician may so participate. A beneficiary may select any physician appearing on the panel to treat him subject to the consent of the physician selected, and may change such selection in accordance with such rules and regulations as may be prescribed. The Surgeon General may set maximum limits to the number of potential beneficiaries for whom a general practitioner may undertake to furnish medical benefits. Such limits may be nationally uniform or may be adapted to take account of "relevant factors."

The services of specialists will ordinarily be available only on the advice of the general practitioner. The Surgeon General will determine what constitutes specialist services and will also determine the qualifications of physicians as specialists "in accordance with general standards previously prescribed by him after consultation with the council and utilizing standards and certifications developed by competent professional agencies."

PAYMENTS FOR THE SERVICES OF PHYSICIANS

Payments to general practitioners may be made (1) on the basis of fees for services rendered, according to a fee schedule approved by the Surgeon General; or (2) on a per capita basis, the amount being according to the number of individuals entitled to benefits who are on the practitioner's list; or (3) on a salary basis, whole or part time; or (4) on a combination or modification of these bases. The method of payment, subject to the approval of the Surgeon General, will apparently be determined in each area in accordance with the desires of a majority of the general practitioners collaborating with the insurance program.

Payments to designated specialists may include payments on salary (whole or part time), "per session," fee for service, per capita, or other basis, or combinations thereof. Apparently the method of payment to be adopted for specialists will be determined by the Surgeon General.

Payments for medical services may be nationally uniform or may be adapted to take account of "relevant factors." In any area where payment for the services of a general practitioner is on a per capita basis, the bill provides that the Surgeon General shall distribute on a pro rata basis among the practitioners of the area on the panel those individuals in the area who, after due notice, have failed to select a general practitioner or who, having made a selection, have been refused by the practitioner.

The bill provides that in each area the provision of general medical benefit for all individuals entitled to receive such benefit "shall be a collective responsibility of all qualified general practitioners in the area who have undertaken to furnish such benefit."

LIMITATIONS ON GENERAL MEDICAL AND LABORATORY BENEFIT

The Surgeon General and the Social Security Board may determine for any calendar year or part thereof that every individual entitled to general medical benefit may be required by the physician attending him to pay a fee with respect to the first service or with respect to each service in a "spell of sickness" or course of treatment if it is believed that such a determination is necessary and desirable to prevent or reduce abuses of entitlement to such benefits. Maximum size of such fee may be fixed by the Surgeon General and the Social Security Board at an amount estimated to be sufficient to prevent or reduce abuses and not such as to impose a substantial financial restraint against proper and needed receipt of medical benefit. Likewise the Surgeon General and the Social Security Board may limit the application of such fees to home calls, office visits or both.

PARTICIPATING HOSPITALS

For a hospital to participate in this insurance program, it must have been approved by the Surgeon General under standards prescribed by him after consultation with the council. A hospital to be approved must provide all necessary and customary hospital services and must be found to afford professional service, personnel

and equipment adequate to promote the health and safety of individuals customarily hospitalized in such institution. The Surgeon General may approve or accredit a hospital for limited varieties of cases and may accredit an institution for the care of the "chronic sick." In determining the adequacy of the professional service, personnel and equipment of any such institution, the Surgeon General may take into account the purpose of such limited accrediting, the type and size of community which the institution serves, the availability of other hospital facilities, and such other matters as he may deem relevant.

ÅPPLICATION FOR AND LIMITATION OF HOSPITALIZATION BENEFITS

No application by an individual for hospitalization benefits will be valid with respect to any day of hospitalization if the application is filed more than ninety days after such day, or with respect to any day of hospitalization for mental or nervous disease or for tuberculosis after such diagnosis has been made. The maximum number of days in any benefit year for which any individual may be entitled to hospitalization benefit will be thirty. If, however, the funds in the special hospitalization benefit account fund to be created prove adequate, the maximum number of days may be increased to ninety by the Surgeon General and the Social Security Board, acting jointly.

PROPOSED METHOD OF ADMINISTRATION

The Surgeon General of the Public Health Service will be authorized to take all necessary and practical steps to arrange for the availability of the medical, hospitalization and related benefits. He will be authorized to negotiate and periodically to renegotiate agreements or cooperative working arrangements with appropriate agencies of the United States, or of any state or political subdivision thereof, and with other appropriate public agencies, and with private agencies or institutions, and with private persons or groups of persons, to utilize their services and facilities and to pay fair, reasonable and equitable compensation therefor.

The methods of administration, including the methods of payment to practitioners, the bill provides, shall (1) insure the prompt and efficient care of individuals entitled to benefits; (2) promote personal relationships between physician and patient; (3) provide professional and financial incentives for the professional advancement of practitioners and encourage high standards in the quality of services furnished as benefits through the adequacy of payments to practitioners, assistance in their use of opportunities for postgraduate study, coordination among the services furnished by general practitioners, specialists, laboratory and other auxiliary services, coordination among the services furnished by practitioners, hospitals, health centers, educational, research and other institutions, and between preventive and curative services, and otherwise; (4) aid in the prevention of disease, disability and premature death, and (5) insure the provision of adequate service with the greatest economy consistent with high standards of quality.

NATIONAL ADVISORY MEDICAL AND HOSPITAL COUNCIL

The bill proposes the creation of a National Advisory Medical and Hospital Council, to consist of the Surgeon General of the United States Public Health Service as chairman and sixteen members appointed by him. The appointed members will be selected from panels of names submitted by the professional and other agencies and organizations concerned with medical services and education and with the operation of hospitals and from among other persons, agencies or organizations informed on the need for or provision of medical, hospital or related services and benefits. Appointed members will hold office for four years, with the terms of office staggered. The appointed members will receive compensation at the rate of \$25 a day for time spent on official business of the council, and actual and necessary traveling expenses and per diem in lieu of subsistence.

This council will "advise" the Surgeon General as to (1) professional standards of quality to apply to general and special medical benefits; (2) designation of specialists; (3) methods and arrangements to stimulate and encourage the attainment of high standards through coordination of the services of general practitioners, specialists, laboratories and other auxiliary services, and through the coordination of the services of practitioners with those of educational and research institutions, hospitals and health centers, and through other useful means; (4) standards to apply to participating hospitals and to establishment and maintenance of the list of participating hospitals; (5) adequate and suitable methods and arrangements of paying for medical and hospital services; (6) studies and surveys of the services furnished by practitioners and hospitals and of the quality and adequacy of such services; (7) grants-in-aid for professional education and research projects, and (8) establishment of special advisory, technical, local or regional boards, committees, or commissions.

RELATION TO WORKMEN'S COMPENSATION ACTS

The benefits provided by this bill will not be available with respect to an injury, disease or disability coming within the purview of any state or federal workmen's compensation act.

DENTAL, NURSING AND OTHER BENEFITS

The bill devolves on the Surgeon General and the Social Security Board jointly the duty of ascertaining the most effective methods of providing dental, nursing and other needed benefits not contained in the pending bill and of determining the expected costs of such additional benefits. The bill contemplates that the Surgeon General and the Social Security Board will report the results of their findings, with recommendations as to legislation, not later than Jan. 1, 1946.

GRANTS-IN-AID FOR MEDICAL EDUCATION, RE-SEARCH AND PREVENTION OF DISEASE AND DISABILITY

The Surgeon General will be authorized to administer grants-in-aid to nonprofit institutions and agencies engaging in research or in under-

graduate or postgraduate professional education. The purpose of these grants will be to encourage and aid the advancement and dissemination of knowledge and skill in providing benefits and in preventing illness, disability and premature death. Such grants-in-aid will be made with respect to each project (1) for which application has been received from a nonprofit institution or agency, stating the nature of the project and giving the reasons for the need of financial assistance in carrying it out, and (2) for which the Surgeon General finds, with the advice of the council, that the project shows promise of making valuable contributions to the education or training of persons useful to or needed in the furnishing of medical, hospital, disability, rehabilitation and related benefits or to human knowledge with respect to the cause, prevention, mitigation or methods of diagnosis and treatment of disease and disability.

This part of the program will be financed by setting aside a certain percentage of amounts expended for benefits from the Federal Social Insurance Trust Fund to be created by the bill. The amount to be set aside will equal 1 per cent of the total amount expended for benefits from the trust fund, exclusive of unemployment insurance benefits, or 2 per cent of the amount expended for benefits under title IX (relating to federal medical, hospitalization and related benefits), after benefits under that title have been payable for not less than twelve months, whichever is the lesser, in the last preceding fiscal year. The bill apparently leaves all the details with respect to these grants-in-aid to regulations to be promulgated by the Surgeon General after consultation with the council.

SELF-EMPLOYED INDIVIDUALS

Self-employed individuals may receive the benefits of the old age, survivors, and permanent disability and medical and hospital insurance by paying into the Trust Fund an amount equal to 7 per cent of the market value of their services rendered as self-employed individuals, after Dec. 31, 1943, with respect to services in self employment after that date, but not including that part of any remuneration for employment and the market value of services in self employment in excess of \$3,000 for any calendar year.

EMPLOYEES OF STATES AND LOCAL SUBDIVISIONS

The bill authorizes the Social Security Board to enter into compacts with individual states or with political subdivisions for the purpose of extending old age, survivors, and permanent disability and medical and hospitalization insurance coverage to employees of such states or political subdivisions. To finance the benefits to be provided under such compacts, the bill requires such employer to pay a social security contribution equal to 3.5 per cent of the wages paid by it after Dec. 31, 1943 and every individual beneficiary of such a compact a contribution equal to 3.5 per cent of the wages received by him after Dec. 31, 1943, excluding any amount paid or received in excess of \$3,000 during any calendar year after Dec. 31, 1943.

BILL AS VIEWED BY SENATOR WAGNER

On the floor of the Senate, June 3, Senator Wagner described the overall objectives of his bill as follows:

The bill establishes a nationwide system of public employment offices, to help war workers and war veterans to avail themselves of job opportunities, in private industry and on farms, throughout the country. It covers broadly the major economic hazards of average American families—the cost of medical and hospital care, and loss of income in time of unemployment, temporary sickness, permanent disability and old age. It improves the present old age insurance system and extends coverage to 15,000,000 persons now excluded, such as farm workers and domestic servants, employees of nonprofit institutions and the independent farmer, professional and small businessman. All these changes are established under a unified national system of social insurance, with one set of contributions, one set of records and reports and one set of local offices. Reinforcing the job guaranty in the Selective Service Act, the bill gives the returning veteran and his family paid-up benefit rights in every phase of this insurance protection. And, finally, the bill sets up an improved, unified system for grants-in-aid to the states for public assistance, on a variable matching basis, in place of the rigid categories under present law.

PROSPECT OF SENATE CONSIDERATION OF THE $$\operatorname{BILL}$$

Senator Walter F. George, chairman of the Senate Committee on Finance before which S. 1161 is pending, has been quoted as saying that his committee cannot possibly undertake to give consideration to the bill until late in the present session of the Congress and that if that consideration is given, and if favorable action is taken by the committee, the measure will not reach the floor of the Senate until next year.

EDITORIAL COMMENT

The Journal of the American Medical Assoliation in its editorial column makes this preliminary statement regarding the proposed legislation:

The Board of Trustees and the newly created Council on Medical Service and Public Relations of the American Medical Association will, no doubt, give careful consideration in the near future to the policy of the Association regarding this specific measure. Arrangements will probably be considered for representation at hearings before the appropriate committees of the Senate and the House. Announcements made by the chairmen of the committees of the Senate and of the House in charge of the bill indicate that this legislation is not likely to come up for consideration previously to the next session of Congress. In the meantime physicians should inform themselves concerning its genesis and its objectives.

In its evolution the Wagner-Murray-Dingell bill stems from the National Health Conference of 1937, the Wagner bill which followed that conference, and the report of the National Resources

Planning Board. Essentially in its medical aspects it is a compulsory sickness bill and an attempt to translate the proposals of the Social Security Board into a technic of action. Inquiry of reliable sources in Washington indicates the probability that the actual designers and authors of the bill included I. S. Falk, director of the Bureau of Research and Statistics of the Social Security Board of the Federal Security Administration, Mr. Wilbur J. Cohen, technical adviser to the Social Security Board, and Senator Wagner's secretary, Mr. Philip Levy. A statement issued by William Green, president of the American Federation of Labor, says "The measure, which is the most comprehensive attempt yet made to establish postwar security in this country, is the fruit of a five year study by experts on the staff of the American Federation of Labor, which will give the proposed program full sponsorship and support." Inquiry also reveals that, as far as can be determined, representatives of the medical profession, either within or without the government, were not consulted in the development of the medical provisions. Evidence of this failure to consult the medical profession appears in the language of the proposed bill, since it speaks twice of a "spell of sickness." The word "spell," thus employed, does not appear in English dictionaries except as a colloquialism in Webster, and the term is seldom, if ever, used by any one educated in medicine.

A study of the analysis by the Bureau of Legal Medicine and Legislation will reveal to the medical reader the terms of the proposal. Speaking bluntly, however, the measure apparently attempts to avoid the innumerable difficulties involved in developing a government controlled medical service by making the Surgeon General of the Public Health Service, whoever he might be, a virtual "gauleiter" of American medicine. Indeed, it is doubtful if even Nazidom confers on its "gauleiter" Conti the powers which this measure would confer on the Surgeon General of the U. S. Public Health Service. Here are some quotes:

The Surgeon General of the Public Health Service is hereby authorized and directed to take all necessary and practical steps to arrange for the availability of the benefits provided under this title. . . .

The Surgeon General is hereby authorized to negotiate and periodically to renegotiate agreements or cooperative working arrangements with appropriate agencies of the United States, or of any state or political subdivisions thereof, and with other appropriate public agencies, and with private agencies or institutions, and with private persons or groups of persons, to utilize their services and facilities and to pay fair, reasonable and equitable compensation for such services or facilities. . . .

There is hereby established a National Advisory Medical and Hospital Council to consist of the Surgeon General as Chairman and sixteen members to be appointed by the Surgeon General.

The Surgeon General shall publish and otherwise make known in each area to individuals entitled to benefit under this title the names of general practitioners who have agreed to furnish services. . . .

Services which shall be deemed to be specialist services shall be those so designated by the Surgeon General, and the practitioners from among those included in paragraph 1 above who shall be qualified as specialists and entitled to the compensation provided for specialists shall be those so designated by him as qualify to furnish such specialist services. . . .

Payments from the Trust Fund to general practitioners . . . shall be made on the basis of fees for services rendered to individuals entitled to benefits, according to a fee schedule approved by the Surgeon General. . . .

The Surgeon General may prescribe maximum limits to the number of potential beneficiaries for whom a practitioner may undertake to furnish general medical benefit. . . .

The Surgeon General is hereby authorized to establish necessary and sufficient hearing and appeal bodies. . . .

The Surgeon General shall publish a list of institutions found by him to be participating hospitals. . . . Inclusion of an institution upon such list shall, unless and until withdrawn by him, be conclusive. . . .

The Surgeon General and the Social Security Board may . . . determine for any calendar year . . . that every individual entitled to general medical benefit may be required by the physician furnishing such benefit to pay a fee with respect to the first service or with respect to each service in a spell of sickness or course of treatment.

The Surgeon General and the Social Security Board jointly shall have the duty of studying and making recommendations as to the most effective methods of providing dental, nursing and other needed benefits. . . .

The Surgeon General, after consultation with the Social Security Board, and with the approval of the Federal Security Administrator, shall make and publish such rules and regulations . . . necessary to the efficient administration. . . .

The term "laboratory benefit" means such necessary laboratory or related services, supplies or commodities . . . as the Surgeon General may determine, including chemical, bacteriological, pathological, diagnostic and therapeutic x-ray, and related laboratory services, physiotherapy, special appliances prescribed by a physician, and eye glasses prescribed by a physician or other legally qualified practitioner.

With respect to inclusion in the list of participating hospitals the Surgeon General may accredit a hospital for limited varieties of cases and may accredit an institution for the care of the chronic sick. . . .

This list is not all conclusive. There are many other points which space simply does not permit to be included in an editorial.

In offering the bill, its proponents emphasize that it provides for free choice of doctors; free choice of a doctor means, of course, free choice of doctors willing to engage in this type of work

The proposed measure has already been discussed editorially by such newspapers as the Washington Star and the Chicago Daily News, both of which pointed out that its passage would accumulate, at least for the present, deductions from many workers' wages of 20 per cent for income tax, 10 to 25 per cent for war bonds, 12 per cent for social security and such other special deductions as are already made in many indi-

vidual plants. According to these figures there would be a minimum deduction of 42 per cent and a maximum deduction of 57 per cent of the worker's wages. The Chicago Daily News said:

We suspect that zeal for social security in the sweet by and by will have a hard time surmounting the shriveled paycheck already here, with the future shrinkage now plainly in sight.

MEDICINE AND THE WAR

THE FAMILY PHYSICIAN AND THE U.S. CADET NURSE CORPS

The Surgeon General of the U. S. Public Health Service, in a recent release, discusses the need of nurses for essential civilian and military nursing services. This is the Surgeon General's discussion of the subject that should claim the attention of the entire profession:

The needs of the war effort make imperative a considerable increase in the numbers of nurses for essential civilian and military nursing services. To aid in meeting this need, the Congress, in passing the Bolton Act, has created the United States Cadet Nurse Corps.

It is natural that young women who contemplate joining the Cadet Nurse Corps will turn to the family physician for advice and guidance on this matter. In pointing out to the prospective cadet nurse some of the reasons why she is needed and how joining the Corps will benefit both herself and her country, the physician on the home front will be making still another patriotic contribution to the prosecution of the war. Furthermore, it is to the physician's own interest to stimulate recruitment, since, as his load of work becomes heavier, nurses can be of increasing assistance to him, not only in hospitals but also in his office and in his patients' homes.

To aid the physician in giving counsel which is specific and which will lead to action on the part of the cadet nurse candidate, the following suggestions are offered.

THE BOLTON ACT

In essence, the Bolton Act provides for grants-in-aid to nursing schools whereby the student nurse is relieved of the burden of tuition, fees, and other expenses which she ordinarily would have to meet herself, and, in addition, she is paid a monthly stipend. Schools participating in the program will

continue to select their students and to plan and operate their own curricula. Certain broad requirements are specified with regard to minimum standards of nursing education, acceleration of the curriculum, and agreement by each cadet nurse that she will continue in military or essential civilian nursing service for the duration of the war.

The effect of the Bolton Act will be to produce more nurses by stimulating recruitment of students and by speeding up training. Recruitment of student nurses has met severe competition from the many opportunities available at present to high school graduates, especially in the uniformed services and in war industry, where pay is immediate without further training. Allotments of funds to the nursing schools will aid in meeting this competition, and will further assist the schools in accelerating their curricula so that training will be more rapid.

NEED FOR 65,000 STUDENT NURSES

Several factors have combined to create the present shortage of nurses. Sixty-five thousand new students in our nursing schools this year has been set as the goal to help relieve this shortage.

STUDENT NURSES RELEASE GRADUATES

By recruitment of an increased number of students and providing an accelerated curriculum the program will enable student nurses to fill many of the needs in hospitals and to release graduate nurses for military and civilian war services.

CIVILIAN HOSPITALS

More people are being hospitalized. Hospitalization saves the physician's time, and civilian physicians are fewer in number and busier now than ever. More people are having babies. The financial burden of hospitalized.

pitalization is less than formerly because people have higher incomes and because of increased use of hospital insurance. Full hospitals need more nurses.

MILITARY SERVICE

A large number of nurses have already joined the Army and Navy and many more are needed as the strength of our forces increases—the current requirement is 2,500 nurses per month.

PUBLIC HEALTH

Crowded living conditions in war-boom areas require increased efforts to safeguard the health of civilians. Public health nurses are key workers in this program.

INDUSTRY

The great increase in war industry requires more nurses for plant preventive and first-aid services.

UNITED STATES CADET NURSES

RECOGNITION OF WAR SERVICE

By the distinctive outdoor uniform, bearing the insignia of the United States Public Health Service and of the United States Cadet Nurse Corps, the cadet is identified as being engaged in an activity recognized as of vital importance in the war effort.

PROFESSIONAL TRAINING

Unlike those working at many war jobs, the cadet receives full training and standing in a profession which will be permanently useful, both to herself and to society.

FINANCIAL FREEDOM

Full tuition and maintenance, including the uniform, are furnished the cadet, and in addition she receives a regular monthly stipend which, although too small to attract those interested primarily in monetary return, is yet sufficient so that no girl need be deterred by financial obstacles from seeking a nursing education. Stipends will amount to \$15 per month during the first nine months of training, \$20 during the next fifteen to twenty-one months, and \$30 or more for the six to twelve months remaining before graduation.

CHOICE OF SCHOOL

The prospective cadet is free to enter the nursing school of her choice, provided only that the school is participating in the program, and that she herself is able to meet the scholastic, personal and physical requirements of that school.

CHOICE OF JOB

While the cadet is required to agree that after graduation she will continue in essential nursing for the duration of the war, it is to be emphasized that she is not compelled to enter military service. On graduation, she is free to choose among the military services and numerous civilian nursing activities. It is to be noted that Army nursing and many civilian positions are open to married nurses. Whether or not a cadet may marry during her training is dependent entirely on the regulations of the school in which she is enrolled.

JOINING THE UNITED STATES CADET NURSE CORPS

APPLICATION TO NURSING SCHOOL

The young woman who is interested in joining the United States Cadet Nurse Corps should inquire from the nursing school of her own choice as to whether it is participating in the program. She must be a high school graduate; other admission requirements vary among individual schools.

CHOICE OF SCHOOL

It is suggested that it may be recommended to prospective cadets that they obtain catalogs of at least three schools before making a final selection. A booklet entitled "Nursing and How to Prepare for It" will prove helpful to young women and may be obtained free from the National Nursing Council for War Service, 1790 Broadway, New York, New York.

LISTS OF NURSING SCHOOLS

Lists of the 1,300 nursing schools in the United States which are accredited by State Boards of Nurse Examiners are also available from the National Nursing Council for War Service. The State Board of Nurse Examiners can supply a list of the schools in each state.

HOSPITAL NUMBER, J. A. M. A.

For convenient reference by physicians attention is called to the fact that the annual Hospital Number of the Journal of the American Medical Association (the 1943 edition is dated March 27) indicates, in its list of registered hospitals, those having an accredited nursing school.

FURTHER INFORMATION

Articles on the United States Cadet Nurse Corps are appearing currently in medical, nursing and hospital journals.* Local nursing schools, the State Leagues of Nursing Education, or the Division of Nurse Education, U. S. Public Health Service of the Federal Security Agency, Washington 25, D. C., can supply additional information.

Physicians are urged to utilize every means to stimulate interest among young women in this new opportunity to aid in meeting an urgent war need.

NURSES' AIDES ARE ELIGIBLE FOR CIVILIAN SECURITY BENEFITS

All volunteer nurses' aides should be enrolled in the U. S. Citizens Defense Corps, the Medical Division of the Office of Civilian Defense states in a special announcement, Circular Medical Series No. 32.

The circular explains that questions persist in some localities regarding enrollment, particularly of nurses' aides not specifically assigned to mobile medical teams, casualty stations and other field casualty units of the Emergency Medical Service.

The immediate importance of this announcement lies in the fact that nurses' aides must be enrolled in the Nurses' Aide Unit of the Citizens Defense Corps, if they are to be eligible for the benefits provided under the War Civilian Security Program of the Federal Security Agency for all members of or trainees for the Citizens Defense Corps who may be injured in line of duty. Nurses' aides presently working in hospitals and health agencies are considered to be in training for service in care of the wounded in the event of an enemy attack or other wartime disaster. They are therefore eligible for membership in the Defense Corps, and are thus eligible for the benefits of War Civilian Security after enrollment.

The Medical Division has recommended in various publications that nurses' aides be admitted to the Citizens Defense Corps when they receive their Red Cross certificates. It is suggested that the local Chief of Emergency Medical Service and the local nurse deputy arrange with the Red Cross

Nurses' Aide Committee to have the required CDC oath administered at the graduation ceremony. All nurses' aides who have completed their training since the program was initiated but have failed to enroll in the Defense Corps should now become enrolled members. Women who are still undergoing their preliminary training as nurses' aides, but have not yet graduated, are also eligible for benefits if they are properly registered with the personnel officers of the appropriate Citizens Defense Corps as trainees for the Nurses' Aide Unit.

A new arm insigne for outdoor dress, as distinguished from the emblem attached to uniforms, has been recently designed for members of the Nurses' Aide Unit of the Citizens Defense Corps. Nurses' aides assigned to mobile medical teams and casualty stations of the Emergency Medical Service may wear either this new arm insigne or the Medical Unit armband, but they must wear one or the other in order to move during periods of air raid alarm. The arm insigne will be distributed by the Red Cross in the same manner as the sleeve and cap emblem.

DUTIES OF STRETCHER TEAMS IN EMER-GENCY SERVICE

The Medical Division of the Office of Civilian Defense in an operations letter issued June 30 defines the duties of stretcher teams of the Emergency Medical Service as these duties have been modified by the recent development of the specialized rescue service.

Rescue squads are now to assume the duties formerly assigned to the stretcher teams at major incidents with many trapped casualties. In addition to the technical work of rescue, this includes emergency care and transport of casualties from the scene of an incident to an ambulance or to a point where medical service is available. Stretcher teams remain, however, an essential part of the Emergency Medical Service, the Medical Division points out. The functions of the teams as outlined in the new statement are as follows:

- 1. Assisting medical personnel at casualty stations in handling and nonprofessional care of minor casualties.
- 2. Unloading ambulances and assisting in reception of casualties at hospitals.

^{*}Parran, Thomas: New Program to Provide Training for Nurses. J. A. M. A. 122, 752 (July 10, 1943).

3. Performing rescue work at minor incidents not requiring specialized rescue squads.

4. Assisting rescue squads at major incidents at which many casualties are trapped.

A stretcher team is composed of a leader and four other persons, preferably men and older boys from the neighborhood of the facility to which they are attached. The Medical Division urges that members of a hospital staff who have maintenance functions should not be selected for duty on a stretcher team.

A group of teams attached to any facility is under a group leader, who is responsible for the organization and training of members of his teams. All team members must meet the requirements of OCD regulations for membership in the U.S. Citizens Defense Corps by completing either an American Red Cross or a Bureau of Mines first aid course. In this connection the operations letter states that if a Red Cross or Bureau of Mines instructor is not available, instruction in first aid may be given by some other qualified person certified by the Chief of Emergency Medical Service. After enrollment in the Citizens Defense Corps, stretcher teams are to be given continued training in field care and transportation of the injured.

ORGANIZATION PLAN FOR RESCUE SERVICE

Plans for the organization of the Rescue Service, which is responsible for the recovery of persons trapped under the structural debris of demolished buildings in the event of enemy action, have been issued by James M. Landis, Director of the U. S. Office of Civilian Defense, in Operations Letter No. 133.

To guide the development of a trained rescue service in the United States Citizens Defense Corps, an engineer officer of the U. S. Public Health Service, Mr. Simon H. Ash, formerly of the U. S. Bureau of Mines, has been designated Chief of the Rescue Section of the Medical Division of OCD. Mr. Ash has recently returned from a month's visit to Britain, where he studied the British rescue organization and training methods. Other mining engineers with rescue experience and also commissioned in the U. S. Public Health Service are being assigned to the Ci-

vilian Defense Regions in the target areas as rescue officers to assist states and local communities in organizing and training the Rescue Service.

The plan calls for state chiefs of rescue service, who should be mining or civil engineers familiar with mining or construction work, according to the recommendations. Local chiefs may be qualified safety engineers or structural experts trained in rescue work.

Although the Rescue Service is being organized nationally under the direction of the Medical Division of OCD, state and local rescue services will be separate from the Emergency Medical Service. Local chiefs of rescue and emergency medical services will work in close coordination in the control center. When reports are received of persons trapped by the debris of buildings demolished by an air raid or other enemy action, an express party is dispatched, which consists of one rescue squad, one mobile medical team, and one ambulance and one sitting-case car.

Rescue workers, who should be recruited from workers in the building and demolition trades, mine workers, mechanics, petroleum industry workers and tunnel workers in the heavy construction industry are to be organized in squads of ten. The squads should be based in depots, each of which should have a complement of three squads rotating on periods of first call.

The OCD recommends an average of one depot for each 50,000 population in target areas. The number in each locality, however, will depend on the type of buildings and on the area over which the community is spread, as well as on the number of residents. In sections in which houses are largely of frame construction or of the one-story type, fewer rescue squads will be needed because trapped persons will be fewer and their extrication less difficult. The national program contemplates an establishment of about 1,000 depots and a full rescue personnel of 30,000 organized into 3,000 squads.

Training for rescue squads will include special technical instruction and drill ranging over all classes of rescue problems and, in addition, practice in advanced first aid and handling of the injured. The medical division now has in press two publications, "Technical Manual for the Rescue Service" and "Emergency Field Care and Transporta-

tion of the Injured," which will be used as training manuals. Advanced training in these subjects will be pursued after squad members are inducted into the U. S. Citizens Defense Corps. Preinduction training includes a basic course in first aid.

The importance of training for rescue workers is emphasized as follows in the operations letter:

"The lives of victims of an air raid or other wartime disaster depend in large part upon the training and skill of leaders and other members of the rescue squads. The technique which they employ in extricating trapped persons from under structural debris and the manner in which they handle the severely injured determine the chances of survival."

The Office of Civilian Defense is preparing to conduct within a few weeks a pilot rescue service training school in collaboration with the U. S. Bureau of Mines at Pittsburgh; another will be held later at San Francisco. Chiefs of rescue services in states and large cities in target areas will be trained in these pilot schools, and they in turn will establish state and local schools for training other rescue service personnel.

HEALTH OFFICIALS IN CIVILIAN PROTEC-TION ORGANIZATION

In order that health and sanitation may be maintained during and after an air raid or other wartime disaster, health officers, with their deputies, division chiefs and sanitary inspectors, should be members of the U. S. Citizens Defense Corps, the Office of Civilian Defense advises in Operations Letter No. 131, entitled "The Health Department in Civilian Protection."

Commanders of the U. S. Citizens Defense Corps are urged to appoint health officers to their staffs.

Health officers should develop plans for prompt action in emergencies to assure: (1) maintenance of safe water, food and milk supplies; (2) sanitary disposal of sewage and putrescible wastes; (3) sanitation at mass feeding centers, rest centers, casualty stations, billets, and other temporary facilities for war emergencies, and (4) control of communicable disease, the operations letter points out. Planning should include the mechanism for mobilizing essential personnel during and following an emergency, it is suggested. Another important duty will be to make arrangements for immediate in-

struction of the public in emergency sanitary measures.

In communities in which the health department does not have sufficient staff to provide sanitary supervision and inspection services in a war emergency, the health officer may select volunteer health deputies and recommend their appointment to the staff unit of the Citizens Defense Corps. The operations letter suggests that these deputies be persons with experience or training in public health, sanitary engineering, bacteriology, chemistry and related fields. Tasks to which they may be assigned include supervision and inspection of disinfection of fractured water mains, pasteurization of milk, preparation and handling of food at emergency feeding centers.

All health department personnel must complete training in accordance with regulations of the Citizens Defense Corps before they can become members, and, in addition, the health officer may prescribe special technical training for them after they have been duly enrolled.

A section of the operations letter is devoted to the place of state health agencies in the civilian protection program. State Defense Councils are urged to obtain the guidance and leadership of the state health officer in the development of an emergency health and sanitation program throughout the state. In states in which other agencies than the health department have responsibilities in health matters, it may be desirable to appoint a health and sanitation committee representing all the agencies concerned with health.

DEHYDRATED PRODUCTS AVAILABLE TO INSTITUTIONS

Because Government requirements for dehydrated carrots and sweet potatoes are smaller than was anticipated, these products will be available for civilian use during the coming year. Food Distribution Order 30, which reserves dehydrated vegetables for war needs, has been amended to permit sale of dried carrots and sweet potatoes to civilian users. While the total amount available probably will not be great enough to warrant general distribution through retail channels, institutions such as hospitals, hotels, and restaurants are encouraged to use these two products.

STATE DEPARTMENT OF PUBLIC HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

MAN'S WAR AGAINST DISEASE

Reports from the battlefields and from troop concentration points all over the world bring the cheering news that the health of American soldiers has been maintained at remarkably high levels thus far in the war. In spite of a growing shortage of physicians still engaged in private practice, the health of our civilian population has, as a whole, remained excellent also. For these most favorable conditions among our soldiers on both the fighting and home fronts all true Americans are indeed grateful.

These conditions, however, are merely a continuation, under great difficulties, of progress made in the science of health protection prior to the war. Year after year the vital statistics reports and the official reports of the State Health Officer and other health workers have told a glowing story of the conquest of disease. Typhoid fever, which many persons now living remember as one of mankind's greatest enemies, has been reduced to a position of relative unimportance as a cause of death and disability and last year killed only nine persons in this State—or about 1 100 as many as in 1917. Tuberculosis, still known as "the great white plague" but now ranking in seventh place as a cause of death in Alabama after occupying first place for many decades, is yielding more ground every year to the advancing armies of medical science. Yellow fever, which used to spread terror among whole populations whenever it would appear in epidemic form, has practically ceased to exist in any except a few medically backward areas, and the children and grandchildren of those who fled from outbreaks like refugees before an advancing army listen with open-mouthed wonder to stories of these heart-breaking experiences. Malaria, still a major health problem in Alabama and other parts of the American southeast, is gradually being conquered by the application of science's latest weapons. The dis-

eases of early infancy, which for centuries prevented mothers from regarding their children as their own until they had passed their first birthday—so likely were they to lose them during that dangerous first year of life—have lost much of their killing power, and Alabama's provisional infant mortality rate for last year was almost one-third less than the 1929 rate. It could hardly be said of any American mother, however poor, as it was said of one of England's queens--Queen Ann—that she died "after having borne her husband 18 or 19 children, none of whom outlived infancy, save one who died at the age of ten." In brief, we are today enjoying the accumulated fruits of mankind's long struggle against the forces of illness and premature death.

That struggle has probably been longer than you realize. For it began virtually with the birth of the human race. As early as the Stone Age, when human beings knew nothing of artificial heat and protected themselves from the elements by living in crude caves, they had to combat many forms of illness as well as the wild animals that leapt upon them in the darkness outside. All the "help" they could obtain was that brought by the medicine man of the tribe, who had no scientific knowledge and whose very hands usually were unclean and productive of more, rather than less, sickness.

In those cradle days of civilization—about 12,000 B. C.—the men of medicine were as different from our modern physicians as night is from day. What they lacked in knowledge of disease and its causes and cure they tried to make up for in appeals to superstition. Like the people they were supposed to treat, they regarded sickness as being due to evil spirits. Knowing nothing about germs and cleanliness, they would begin weird incantations and ceremonies in the hope of either appeasing those evil spirits or frightening them away. The appeasing was done by means of offerings and sacrifices. The attempts to frighten them were made with hideous masks, fearful noises, and ceremonial dances. Needless to say, whatever forms their attempts at curing the sick took, they did no good. Those who would

have recovered anyhow managed to recover. The others—many of whom would have recovered under modern treatment procedures—died

An important step in the prevention of disease was taken by the Hebrews of ancient Palestine some seven centuries before Christ. The teachings of Moses show that he deserves credit as a sanitarian as well as a law-giver. These teachings emphasize personal cleanliness and suggest that certain diseases may be controlled by quarantine and isolation. The priests of his time made an effort to enforce certain regulations based upon these principles and are believed to have been instrumental in preventing much illness. It is not without reason, therefore, that they have become known as "the first sanitary police."

An imaginary episode in the interest of public health in the city of Jerusalem is described by C. E. A. Winslow and Grace T. Hallock in a booklet "Health Through the Ages," published by the Metropolitan Life Insurance Company. They wrote:

"The great trumpet, or shofar, has been sounded as a warning that the third case of some infectious disease has occurred in the city. One of the priests of Solomon's temple is about to tell the people what they must do, according to the code of Moses, as set down in the books of Leviticus and Deuteronomy.

"Before the steps of the temple is gathered a motley throng waiting for the coming of the priest-soldiers, merchants of the city, herdsmen from the surrounding plains, a group of porters just back with loads of cedar-wood from Lebanon. The old priest comes slowly and majestically out of the temple door and, as the people grow silent, he gives his message. He warns them of the danger of incurring God's anger by running after the gods of the heathen. Then he tells them that persons affected with diseases are 'unclean' and that anything which such a one has touched is unclean also. After recovery, the infected person must be quarantined for seven days and then his body and clothes must be washed. The priest then gives the signs by which certain diseases like leprosy may be recognized.

"The speaker tells the people that disease must be reported. 'He that owneth the house shall come and tell the priest, saying, 'It seemeth to me there is, as it were, a plague in the house.' Then the patient shall go out of the house to the door of the house and shall shut up the house seven days. If the priest, after this period, still believes the house to be infected, he will order it to be torn down and its stone and timber carried out of the city.

"After delivering his message the old priest turns once more and enters the temple door. The people disperse to their homes, pondering his words." As we turn the pages of medical history we come to the period, about three centuries later, known as the Golden Age of ancient Greece. The arts and sciences were flourishing. The buildings, statues, and other works of art which were produced during that period have given that country high rank among the world's great cultural capitals. Philosophy flourished, along with art. Greek authors of that age still hold high rank among the great thinkers of all time.

The development of the human body flourished too in the Greece of the fifth century B. C. The Germany that emerged from the First World War adopted the exercises and other forms of physical development which the Greeks developed many centuries earlier, and there is no doubt that the German soldiers who quickly overran Poland, France and many other countries and threatened to dominate the world owned their physical prowess in large measure to their leaders' having put into practice the teachings of the great body-builders of ancient Greece.

Greece, you remember, is the home of the Olympic games. For those contests of physical skill and coordination of mind and muscle the people of that country turned out in throngs. There the contests were not of team against team but of man against man. The athletic heroes of that great age of physical development were the runners, the jumpers, the discus-throwers, the wrestlers and the spear-throwers. And a super-hero was he who excelled in all five fields.

But the people of ancient Greece did not confine their health building to the development of sturdy bodies by careful training and exercise. A Greek father and mother gave the world one of its greatest doctors, Hippocrates of Cos, whom we honor to this day as "the father of medicine" and whose oath of unselfish service to the world's sick and disabled is still repeated every year by thousands of medical school graduates.

Hippocrates was both a medical genius and a product of the age in which he lived. He grew up among men and women whose conception of the universe was based upon the operation of natural laws. From them he learned that these laws could be studied and that human well-being and happiness could be advanced by molding one's conduct

in accordance with them. It is natural that, from such teachings, he should have acquired a medical philosophy considerably in advance of that of his medical contemporaries. Instead of depending upon magic formulas, arbitrary theories and the pleasing of heathen gods, he studied his patients, observed the action of various diseases and sought to find out their cause and cure. In spite of the comparatively little medical knowledge at his command, he laid the groundwork for modern medicine by removing it from the realm of superstition.

We are indebted to the ancient Romans for an entirely different sort of contribution to the art of healthful living. We are especially indebted to Sextus Julius Frontinus, who was appointed by the Emperor Nerva early in the Christian era as Commissioner of Waterworks of the City of Rome. As you may judge from his title, it was his responsibility to keep the people of the eternal City supplied with safe, healthful water for drinking and cleansing purposes.

The public water supplies of the first century after Christ were of course different from those which modern Americans enjoy, but not as different as you may suppose. Whereas modern city-dwellers turn on their faucets and get water for many uses after it has been carried in metal pipes all the way from streams and wells to their kitchens and bathrooms, the water available to the people of ancient Rome was carried from the hills at some distance from the city in open channels or aqueducts, which sloped gently and permitted the water to flow in accordance with the law of gravity. A series of arches, each slightly lower than the one just preceding it, prevented the water from rushing headlong to the bottom of valleys and remaining there because it lacked the momentum to overcome the force of gravity on the upward side. Some of those arches are still in use.

Under Commissioner Frontinus' supervision, the approximately 1,000,000 people of Rome are said to have been supplied in this way with about 40,000,000 gallons of water a day, an average of about 40 gallons per capita. It was carried to water tanks or cisterns for storage and from there flowed out in pipes to the homes of the wealthier classes, and to the public fountains and public baths. The city's poor, unable to have

their houses equipped with the pipes, would take pitchers, buckets and other containers to the fountains, among the most beautiful in the world, and take home as much as they needed. The public baths were magnificent. They were provided especially for the poor but were often used by those rich enough to have private baths in their own homes. So popular did bathing become in the interest of health and enjoyment that practically every Roman is said to have taken at least one bath a day.

Pavements, often regarded as comparatively recent development, were as familiar to the Romans of Frontinus' time as magnificent baths and running water. Rain water was prevented from becoming dammed up on the streets and endangering health. Street cleaning was provided. There was even a building code, and purity standards for foods were set up and enforced.

We are sometimes tempted to speak rather scornfully of the past, especially the ancient past. We think of it as crude and unenlightened and congratulate ourselves upon living in modern times. That is only natural, in this age of miracles in medicine and in other fields. Let us, however, keep a sense of proportion and freely acknowledge our debt to those who made notable contributions to our health and happiness many centuries ago.

BUREAU OF LABORATORIES Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

JULY 1943

Examinations for diphtheria bacilli	
and Vincent's	435
Agglutination tests (typhoid, Brill's,	
undulant fever)	. 972
Typhoid cultures (blood, feces and urine)	885
Examinations for malaria	2,131
Examinations for intestinal parasites	2,110
Serologic tests for syphilis (blood and	
spinal fluid)	.44,802
Darkfield examinations	33
Examinations for gonococci	2,964
Examinations for tubercle bacilli	1,659
Examinations for Negri bodies	
(microscopic)	46
Water examinations (bacteriologic)	1,071
Milk examinations	2,351
Pneumococcus typing	. 1
Miscellaneous	309

Total 59,769

BUREAU OF PREVENTABLE DISEASES D. G. Gill, M. D., Director

ROCKY MOUNTAIN SPOTTED FEVER IN ALABAMA

Recently there have been published a number of articles dealing with Rocky Mountain spotted fever and with particular reference to its symptomatology and preven-The Eastern variety of this disease has been acquiring more prominence in recent years and the infection is evidently fairly widespread. Alabama has had very few cases of this disease reported in the past, there having been only fourteen cases on record in the past ten years. Two cases reported this summer are of more than passing interest, therefore, as indicating that the infection is still present in this state. These two cases both occurred in the same county and in individuals who had possibly been exposed to wood ticks although no history of tick bite could be obtained. The cases were of considerable severity and although both recovered, one in particular had a stormy course.

In a section of the country where typhus fever is prevalent the differential diagnosis between that disease and Rocky Mountain spotted fever is not easy. In these two cases symptoms were more severe, the rash was more pronounced, and duration of symptoms was longer than might be expected in typhus. Clinical impression was confirmed by laboratory procedures. The Weil-Felix agglutination test, originally negative, became progressively more positive in high dilutions. Specimens sent to the National Institute of Health in Washington were reported as giving the same high Weil-Felix reaction and in addition as showing a positive complement fixation test for Rocky Mountain spotted fever with a negative test for endemic typhus. The second patient on three specimens submitted at intervals of a week gave a negative complement fixation on the first specimen; positive 1:256 for Rocky Mountain spotted fever on the second and positive 1:1024 for Rocky Mountain spotted fever on the third. The value of this test in differential diagnosis is apparent. Typhus fever has been unusually prevalent this year in Alabama but it is hoped that two diseases so similar in clinical appearance will not become endemic at the same time.

BUREAU OF SANITATION T. H. Milford, M. S. in S. E., Director

FILTERING MILK ON THE FARM

U. D. Franklin, B. S., M. S. Principal Sanitarian

Filtering of milk on the farm is now recognized as a routine procedure. It is considered necessary for the removal of extraneous material accidently or otherwise entering the milk. Even though it is recognized that extraneous material should be kept out of milk, nevertheless it is only proper that any entering it should be removed as promptly as possible. For this reason, filtering is accepted in the production of high quality milk.

In reality the reason for filtering milk is two-fold: (1) to remove extraneous material from the milk; and (2) to provide at the point of production a sediment test of the milk. There is, at present, a tendency by many milk producers to put too much emphasis on the use of the filter disk for taking dirt out of milk instead of using it to indicate need for added care in production. Never should the filter be used primarily for cleaning up milk. To the contrary, it should demonstrate to the producer or the milkhandler the effectiveness of the methods employed in the production and handling of the milk. In fact, the filter disk from a strainer is a first hand sediment test for the producer. It is an index as to the kind of milk he is passing on to the consumer, as well as to the effectiveness of methods used. It can also be useful in detecting the presence of mastitis.

Filtration of milk is more or less a mechanical process. It is simply the withholding of solid particles from passing through openings or orifices. A filter should possess certain qualities: ruggedness to insure the fitting of all parts; simplicity to avoid loss of essential parts; accessibility to all parts or surfaces thereby making the job of cleaning and sterilizing comparatively easy; modernness of design to permit a satisfactory flow of milk, and protection of disks from physical force and hand contamination. A filter that does not hold the disk securely will not filter the milk properly. Milk flowing through the filter will always seek the course of least resistance. If there are openings around the edge of the disk, some milk

is most certain to pass unfiltered. A most frequent cause for ineffective filtering of milk is that of jamming or bumping the filter to increase the flow of milk through the disk. This practice invariably results in rupture of the disk, again permitting unfiltered milk to pass.

Filter disks can be expected to filter only a limited volume of milk. The volume is largely governed by the amount of extraneous material present, the temperature of milk at time of filtration, and certain other physical or biologic conditions. After this quantity has been filtered, the disk should be replaced with a new one. Replacement should be done in a manner to minimize contamination of the filter and disk. New filter disks are relatively sterile and should be handled accordingly.

There are several types of single service cotton filter disks; viz., plain cotton, cotton with single and double gauze face, and cotton flannel. Most commercial filters are so constructed as to be adequately served by one of the types mentioned. A plain cotton disk is the least desirable, but may be fairly satisfactory in those filters provided with a metal support below the disk and adequately protected from pouring by a baffle or dome above. Disks of better quality obviously cost more. Even so, it is good economy to select a rugged and simply constructed filter, and to use the most durable filter disk to insure removal of all dirt or extraneous material. The use of a strainer cloth made from canton flannel, cheese cloth, or even a sugar sack is a common practice with some producers. Cloths of this type are usually used for some time and in a majority of cases lead to no end of trouble. In fact, this type filter is an additional piece of equipment that must be regularly cleaned and sterilized as are other utensils.

Warm milk will filter more rapidly than cold milk. It is therefore essential that milk be filtered as soon as possible after milking for two reasons: (1) to conserve time required for filtration, and (2) to remove extraneous material before it has sufficient time to dissolve. Certain types of sediment are more soluble than others and if permitted to remain in the milk for a considerable period will be largely dissolved and, quite naturally, will impair the quality or flavor of the milk.

In conclusion, it is essential in the production of high quality milk to use a filter, not to cover up carelessness in methods of production, but rather to remove any foreign material that might unavoidably have gained access to the milk. Furthermore, the filter disk should be primarily an index to indicate to the producer how well cleaning of the cows, barn, etc., has been done.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

NUTRITION AND CHILD HEALTH

A very timely article on nutrition and child health by Dr. A. A. Weech, Professor of Pediatrics, University of Cincinnati College of Medicine, appeared in the July 1943 issue of the Ohio State Medical Journal; and with his permission excerpts from it are given herein.

The lack of specific food substances in the diet produces frank deficiency disease. This is well established, but there are many who think the subclinical deficiency state is of no great importance in determining health. "The bearing of nutrition on child health is broad and the goal must be set at a high level. This level must aim not only at the eradication of frank nutritional illness, but should seek to attain from a wisely chosen diet the maximum of health, happiness, efficiency and longevity."

Dr. Weech has seen many patients with nutritional edema which had developed in connection with other acute illness. He calls attention to the work of J. H. Ebbs and his associates in Toronto. A study was made of the diets of 380 women who had not reached the sixth month of pregnancy. They were divided into two groups, those on a good diet and those on a poor diet. Part of those in the poor group were placed on diets supplemented by milk, eggs, oranges, tomatoes, wheat germ with iron and viosterol. Thus three groups were studied. The women themselves were benefited, but our interest is in the child himself.

Observations were made on the first 250 babies and followed to the age of six months. There is no evidence that the type of diet influenced the birth weight, but at the age of six months the infants born to the mothers

on the better diets were heavier than those in the poor diet group.

The data in the accompanying table which summarizes the health records of the infants during the first six months of life are of practical importance.

TABLE 1 $\begin{tabular}{lllnesses} & {\tt RECORDED} & {\tt FROM} & {\tt BIRTH} & {\tt TO} & {\tt SIX} \\ & & {\tt MONTHS} & \end{tabular}$

	Poor Diet Percentage	Supple- mented Percentage	
Pneumonia	5.5	1.5	0.9
Bronchitis	4.2	1.5	5.7
Frequent colds	21.0	4.7	4.7
Otitis media	1.4	1.5	4.7
Anemia	25.0	9.4	17.1
Dystrophy	7.0	1.5	0
Rickets	5.5	0	0.9
Tetany of new	born 4.2	0	0
Pneumonia Bronchitis Frequent colds Otitis media Anemia Dystrophy Rickets	5.5 4.2 5 21.0 1.4 25.0 7.0 5.5	1.5 1.5 4.7 1.5 9.4 1.5	0.9 5.7 4.7 4.7 17.1 0

From Ebbs. Brown, Tisdall. Moyle and Bell. Canad. M. A. J., 1943, 46:6.

"The poor diet during pregnancy is associated with a higher incidence in the infant of pneumonia, bronchitis, colds. anemia, dystrophy, rickets, and tetany." The specific dietary factors were not involved. The poor and good diets were poor and good in not one but a number of dietary essentials.

. The relation between diet and resistance to infection is discussed. "The evidence that either vitamin A or vitamin C is concerned directly in the mechanism of immune reaction remains unconvincing." Dr. Weech thinks there is need of greater knowledge of the role of the specific factors, of the age when nutritive lack is most significant, and of the relation between diet and resistance to particular microorganisms.

Studies of the relation between diet and physical fitness indicate that a fully adequate diet can aid the body in withstanding the toxic action of some organic poisons. Aside from the prevention of illness, there is reason to believe that "a richer nutritional life will be associated with greater strength, skill, and endurance in the performance of physical tasks."

In his summary Dr. Weech states: "Our efforts toward improving the nutrition of the child may rightly go beyond the prevention of recognizable deficiency disease and aim toward assembling, in his behalf, all available knowledge of dietary essentials. The reward can be visualized in terms of increased health, happiness, efficiency and longevity."

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1943

	June		timated ectancy July
Typhoid	10	42	61
Typhus		65	44
Malaria		559	952
Smallpox		1	0
Measles		232	133
Scarlet fever		37	40
Whooping cough	261	318	144
Diphtheria	10	12	35
Influenza		95	27
Mumps		67	31
Poliomyelitis		6	13
Encephalitis		.1	3
Chickenpox		40	13
Tetanus Tuberculosis		2 4	273
77 11		343	41
Meningitis		11	44
Pneumonia	1.12	162	89
Trachoma		102	0
Tularemia		ĭ	1
Undulant fever	<u>1</u>	9	6
Dengue		0	0
Amebic dysentery	1	Ö	0
Cancer	163	174	0
Rabies—Human cases	0	0	0
Positive animal heads	11	8	

*As reported by physicians and including deaths not reported as cases.

†The estimated expectancy represents the median incidence of the past nine years.

Tuberculosis—To discover tuberculosis at the time it should be discovered, it must be looked The beginnings of the foundation for this axiomatic statement have been established for some years, and the present policy of the armed forces of this country are predicated upon them: but it took the results of the induction examinations to crystallize out the tremendous significance of this truth into dazzling brilliance. The examination of the inductee into the military service has become the greatest tuberculosis case-finding campaign the world has ever seen. A chest film is made on every draftee, and the extent to which undiscovered tuberculosis has been revealed in the apparently well groups has been revolutionary.

It is so well known that repetition here is not needed, that the optimum time to find tuberculosis is in its earliest demonstrable manifestations. At this time it can well be stated that tuberculosis is the most readily cured of all chronic diseases that cause death. It is not so well known, however, that the x-ray examination is by far the best and in most instances the only way by which this demonstration can be accomplished. Finally, it is little known that the x-ray film can reveal a clinically significant lesion in the lungs months or years before symptoms appear.

Already there is being increasingly shown a sharp reversal of tuberculosis statistics. This is strikingly so in the case of sanatorium statistics. Formerly, the average figure for far advanced cases on admission to the sanatorium was approximately 80 per cent. Today this very doleful figure is being gradually but progressively whittled down in favor of moderately advanced and early cases. If the availability of institutional beds could keep pace with early diagnosis, then this reversal of figures could be startling indeed. —Holmes, J. M. A. Georgia, August '43.

BOOK ABSTRACTS AND REVIEWS

Healthy Babies Are Happy Babies. By Josephine Hemenway Kenyon, M. D. Cloth. Price, \$1.50. Pp. 343. Boston: Little Brown and Company, 1943.

This book is especially written to be used as a guide for mothers, but should also be helpful to nurses and physicians. It gives good sound advice regarding the care of women during the maternity cycle and the care of her child during infancy and the preschool period.

The author has a deep understanding of maternity and child care and not only tells what should be done but fills the pages with why it should be done, giving confidence and security to the mother who follows this advice.

Bess Le Fevre.

Manual of Industrial Hygiene and Medical Service in War Industries. Prepared by the Division of Industrial Hygiene, National Institute of Health, United States Public Health Service. William M. Gafafer, Editor. Cloth. Price, \$3.00. Pp. 508. Philadelphia: W. B. Saunders Company, 1943.

This manual has been issued under auspices of the Committee on Industrial Medicine of the Division of Medical Sciences of the National Research Council. The contributors are 14 members of the staff of the Division of Industrial Hygiene and one member of the staff of the Division of Sanitary Reports and Statistics of the U. S. Public Health Service, and a physician of the medical department of a large insurance company. It is in reality a symposium on all phases of industrial hygiene and related subjects.

The manual is divided into three parts: (1) Organization and Operation of Facilities; (2) Prevention and Control of Disease in Industry; and (3) The Manpower Problem. In Part 1, the changes that have come about due to the war effort are reviewed with special emphasis on the fact that all medical and scientific personnel is at a premium at the present and all medical facilities will have to be developed with this in mind, programs streamlined with no lowering of medical, nursing, sanitation or engineering standards. First things are kept first and the last things are de-emphasized or dropped only as a war measure. Integration of plant and community facilities is stressed and sources of available assistance are given.

The second part of the manual is devoted to the prevention and control of disease in industry. Special chapters on occupational dermatoses, venereal disease control, psychiatry, health education, industrial fatigue and nutrition are thoroughly and competently handled. In the chapter on engineering control of air contamination a list of maximum allowable concentrations of various toxic substances which are widely used in the war effort is given.

In the third portion of the manual, The Manpower Problem, three topics come under discussion: the maximum use of manpower with special reference to the use of, and rehabilitation of, physically handicapped personnel, preplacement examinations and the use of job analysis; the employment of women with their special problems and the necessity of remodeling plant facilities to serve both men and women; and finally there is a chapter on absenteeism with some analyses on its length and cause with some suggestions as to what may be done to control it.

The manual covers such a wide field that it can barely touch on some of the subjects. An extensive bibliography is given with each chapter which will guide anyone interested to ample material for investigating any specific topic at greater length.

This manual may serve as a guide for those employed in industrial hygiene and for those individuals who are stepping in to replace physicians and other personnel who have gone into the service of their country.

E. H. Place.

Neurosurgery and Thoracic Surgery. Military Surgical Manuals, Volume VI. Prepared and edited by the Subcommittee on Neurosurgery and Thoracic Surgery of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. Cloth. Price, \$2.50. Pp. 310, with 103 illustrations. Philadelphia: W. B. Saunders Company, 1943.

This, the last volume in the series of manuals published for the armed forces, is perhaps one of the best organized of the entire group. The list of contributors contains outstanding men in their respective fields.

The subject of neurosurgery is presented primarily for all of the acute injuries and infections and devoted entirely to those conditions that can be handled in the field of combat. All elaborate procedures that necessitate a large base hospital have been omitted.

Because of its nature, this subject is of interest to the civilian physician who sees head injuries in private practice.

The treatment of the scalp, always a common occurrence, is adequately covered by including debridement, sulfonamides and closure. Injuries to the skull are limited chiefly to punctures and depressed fractures. The method of treatment is brief and amply outlined. Conservative therapy is advocated widely. Stress is made frequently upon doing a neurologic examination before any elaborate procedures, this in order to avoid increasing injury, especially to the spinal cord, by excessive movement.

The treatment of rupture of the intervertebral discs is adequately handled. This at present is an important subject in private practice and in industrial medicine. The repair of nerve injuries is well illustrated and handled. The technique of end to end anastomosis is emphasized. The various syndromes are fully treated and well belong in the hands of every physician.

It is at the point of nerve repair that the authors deviate from their objective since some of the procedures included must be delayed until the injured reaches a large base hospital. They are perhaps included in order to make the sub-

ject more complete.

The portion on thoracic surgery is presented by four of the most prominent men in the field of chest diseases. It is by far one of the most important subjects of war medicine since the mortality rate of chest injuries is so high. Principles of drainage, resection of ribs, treatment of empyema and foreign bodies in the chest are well handled. They are treated in a synoptic form and excessive details omitted. Only conditions that can be handled in the field are included, with perhaps the exception of bronchoscopy, but this is a minor inclusion. The principle of drainage of empyema by open resection of the rib is beautifully presented in diagrammatic manner. Repairs of injuries to the myocardium are presented simply. This form of surgery is becoming more widely recognized. A real test of its results will be shown in the present con-

This volume, including neurosurgery and thoracic surgery, is well arranged and presented and is a valuable asset to men in active service.

Norman Van Wezel.

Psychosomatic Medicine. The Clinical Application of Psychopathology to General Medical Problems. By Edward Weiss, M. D., Professor of Clinical Medicine, Temple University Medical School, Philadelphia; and O. Spurgeon English, M. D., Professor of Psychiatry, Temple University Medical School, Philadelphia. Cloth. Price, \$8.00. Pp. 687. Philadelphia: W. B. Saunders Company, 1943.

The authors present a volume of 651 pages exclusive of the index in presenting to the medical profession an outline of what on the surface would appear to be a new approach to diagnosis and therapy. However, one need not go deeper into the volume than the first few phrases of the preface to learn that even the authors do not consider this method as new.

The general practitioner of experience knows that laboratory and physical findings alone do not wholly explain the entire picture that most patients present. What the authors attempt to do is to equip the practitioner with a nomenclature by means of which he could attach a specific scientific label to each patient, thus neatly filing history records under a group classification. They accomplish this by presenting two introductory chapters outlining in clear, easy-to-read language what they mean by psychosomatic medicine and an adequate discourse on personality development and psychopathology.

The authors then proceed to present from their vast clinical material a large number of patients grouped into classes under headings of those whose symptoms and physiopathology pertain to the cardiovascular system, gastrointestinal system, the respiratory system, the central nervous system, the special senses—eye, ear and skin; and include under special topics allergy, dentistry and arthritis.

Moreover, since the world is at war and physicians the world over will have numerous patients whose illness can be traced to their military experiences, a short chapter is devoted to military medicine.

This volume is then completed by three chapters devoted to psychotherapy which can be of inestimable help to the general practitioner. To the young physician this treatise can prove to be of great value for it will demonstrate to him how to treat his first patients, who have generally been the bane of the other physicians in the locality, and who are among the first to try the skill and knowledge of a new doctor. This class of patient when pleased by the new doctor's methods and results obtained will often prove to be the best sort of an advertisement from mouth to ear—one of which the A. M. A. does not disapprove, and make certain the early success of the new practitioner.

All in all, this book will prove a good investment to both young and old practitioners.

David Rappaport.

Manual of Fractures: Treatment by External Skeletal Fixation. By C. M. Shaar, Jr., Captain, Medical Corps, U. S. Navy, and Frank P. Kreuz, Jr., Lt. Com. Medical Corps, U. S. Navy, Cloth. Price, \$3.00. Pp. 300. Philadelphia: W. B. Saunders Company, 1943.

The title proper is incorrect since this is not a manual of fractures. The subtitle is in reality the right one; namely, "The Treatment of Fractures by External Skeletal Fixation."

This method does not supplant the more orthodox methods of reduction, traction and fixation of fractures; rather, it supplements this practice. The authors properly point out that there are circumstances when external fixation is the method of choice and it is for these circumstances that the manual was prepared.

For example, in a naval encounter or on a rough sea, the motion of the ship prevents the use of traction and countertraction weights. Next, time may not permit the use of internal fixation. Also, a cast on a leg of a man who must abandon ship will serve as an anchor to that patient when he is in water. It is circumstances such as these when external fixation is most urgently indicated

The advantages of external fixation are: 1. It is applied to only one aspect of the limb. 2. It is adjustable and readjustable without elaborate equipment. 3. The patient is ambulatory at once. 4. It does not immobilize the injured joint.

Points of failure in the use of the splints are indicated as: 1. The pins do not penetrate both cortices. 2. They are incorrectly placed in regard to the line of fracture. 3. They are loosely placed. 4. Asepsis is not maintained.

The volume then deals in detail with special fractures which include fractures of the jaw, of the radius and ulna, femur and pelvis, tibia and fibula and os calcis.

The photographs with their adjacent sketches are excellent for study and illustration.

The use of external fixation in other conditions is then presented briefly, such as in chronic osteomyelitis, arthrodesis of joints, etc. The final chapters on antipendulum traction supports for use at sea are included for completeness.

This small volume is excellent even though its use will be primarily for naval surgeons.

Norman Van Wezel.

AMERICAN MEDICAL ASSOCIATION NEWS

PENICILLIN RESEARCH COMMITTEE ISSUES FIRST CLINICAL REPORT

IT IS A REMARKABLY POTENT ANTIBACTERIAL AGENT, NATIONAL RESEARCH COUNCIL GROUP DECLARES FROM STUDY OF 500 CASES

Penicillin is a remarkably potent antibacterial agent which can be given by injection into a vein, into a muscle or by local application but it is ineffective when given by mouth, the Committee on Chemotherapeutic and Other Agents, of the Division of Medical Sciences, National Research Council, declares in The Journal of the American Medical Association for August 28 in a statement outlining the findings from a study of 500 cases of infection treated with the substance. The committee is composed of Chester S. Keefer, M. D., Boston, chairman; Francis G. Blake, M. D., New Haven, Conn.; E. Kennerly Marshall, Jr., M. D., Baltimore; John S. Lockwood, M. D., Philadelphia, and W. Barry Wood, Jr., M. D., Baltimore.

Other conclusions from the study reported by the committee are that following intravenous or intramuscular injection penicillin is excreted rapidly in the urine, "so that in order to obtain an adequate amount of potent material in the circulating blood and tissues it is necessary to inject penicillin continuously or at frequent intervals; that is, every three to four hours.

"Penicillin has been found to be most effective in the treatment of staphylococcic, gonococcic, pneumococcic and hemolytic streptococcus infections. It has been disappointing in the treatment of bacterial endocarditis. Its effect is particularly striking in sulfonamide resistant gonococcic infections.

"While the dosage schedule requires additional investigation, it seems clear that the average patient requiring intravenous or intramuscular injections for serious staphylococcic infections requires a total of between 500,000 and 1,000,000 Oxford units, and the best results have been observed when treatment is continued for at least ten days to two weeks. At least 10,000 units should be given every two to three hours at the beginning of treatment, either by contin-

uous intravenous injection or by interrupted intravenous or intramuscular injections.

"Satisfactory results are obtained in sulfonamide resistant cases of gonorrhea following the injection of 100,000 to 160,000 units over a period of forty-eight hours.

"Patients with pneumococcic pneumonia frequently recover following the use of 100,-000 units given over a period of three days. This is especially important in sulfonamide resistant pneumococcic infections. . . .

"Toxic effects are extremely rare. Occasional chills with fever, or headache and flushing of the face have been noted. . . ."

The Oxford unit, so called because the first extensive work on penicillin was done at Oxford University, England, is that amount of penicillin from a particular batch which will destroy a given number of Staphylococcus aureus organisms. Different batches of penicillin vary in the number of Oxford units they contain. In the September issue of Hygeia, The Health Magazine, E. K. Gubin, Washington, D. C., explains that 160 quarts of mold culture will yield 10 grams of penicillin, which is sufficient for about one hundred standards doses and that it has been estimated that under present manufacturing conditions 1,000 grams of penicillin would cost nearly \$50,000 to produce.

The report of the committee is based on the studies conducted by twenty-two groups of investigators accredited to the committee. As has been pointed out in recent announcements, the amount of penicillin that can be produced is not sufficient fully to meet the needs of the armed forces, thus little, if any, of the substance is likely to be available for civilian use for some time.

The committee says that since the question of adequate or optimum dosage of penicillin has not been clearly defined, the objective in treatment should be the maintenance of a sufficient concentration of penicillin in the blood to inhibit completely the growth of the individual infecting organism.

The committee points out that the reason that the substance is ineffective when given by mouth is that investigators have shown that the gastric juice destroys penicillin rapidly at body temperature, the destructive action appearing to be due to hydrochloric acid.

Of particular importance is the declaration of the committee regarding strains of various organisms that are resistant to penicillin. The committee says that "It is of considerable interest that penicillin fast strains of pneumococci are susceptible to the sulfonamides and that sulfonamide resistant strains of pneumococci are susceptible to penicillin. Moreover, C. M. McKee and C. L. Houck have shown that an increase in the resistance of organisms to penicillin is associated with a proportional loss of virulence, an observation that is in striking contrast to the retention of virulence by sulfonamide resistant cultures.

"Obviously, more information is needed concerning penicillin resistant strains and their mode of production, since it may aid one in interpreting the clinical results or failure. . . ."

Regarding the results of treatment of Staphylococcus aureus infections with bacteremia, the committee says that 60 per cent of 91 patients recovered or improved under treatment so that recovery followed later. Death occurred in 37 per cent and no effect was observed in 3 per cent.

"In a group of such infections in which the fatality rate is so high," the committee says, "these results are very impressive, since the over-all fatality rate in this group without penicillin or sulfonamides is usually about 85 per cent . . . The failures only serve to emphasize the great importance of early diagnosis and immediate and adequate treatment. . . ."

Of 55 patients with osteomyelitis 48 recovered or improved and 7 showed no effect. However, it is pointed out by the committee that final statements concerning the ultimate outcome of these cases cannot be made until several years have passed.

Of 129 cases of gonococcic infection, all of which were sulfonamide resistant, 125 were free from symptoms and were bacteriologically negative within nine to forty-eight hours after treatment. These findings lead the committee to declare that "Here, then, is a most potent weapon in the treatment of sulfonamide resistant gonorrhea, and it is not too much to predict that penicillin will prove to be one of the most effective agents

in the treatment of a disease that causes great ineffectiveness in the armed forces and in the civilian population."

ADVISES ON CARE AND PROTECTION OF FOODS FOR SAFETY IN EATING

SIGHT, SMELL AND COMMON SENSE ARE ENOUGH TO ENABLE ONE TO DETECT SPOILAGE, WRITER IN HYGEIA EXPLAINS

Sight, smell and common sense are enough to enable one to tell whether food is safe to eat, Mary C. Brown, Cedar Rapids, Iowa, points out in the September issue of Hygeia, The Health Magazine, in an article on the care and protection of foods for safety in eating.

"Food laws and conscientious food handlers protect us," she declares, "but intelligent planning for the purchase of foods according to family needs, plus a proper knowledge of how to care for foods not used immediately after they are bought, how to protect 'left-overs' that must be stored from meal to meal and how to detect spoilage will pay large dividends in the avoidance of unsafe foods and in protection for the family budget.

"It is a common belief, for example, that the kitchen cupboard is a suitable storage place for cooked meat—especially luncheon meats and cured meat. This is a dangerous belief. All meat should be kept on one of the coldest shelves in the refrigerator. . . . The home refrigerator, moreover, is not cold enough for satisfactory storage of raw meat, which should be cooked within a few hours after it is purchased. . . ."

Frequently, Mrs. Brown points out, a housewife's attitude is that if leftovers are eventually eaten, her problem is solved. Actually, her real solution lies in preventing leftovers by cooking less food. If food is left over, however, it should be heated thoroughly (after exposure to the air), covered and refrigerated adequately. Leftovers should be heated again thoroughly before serving, which should be within twenty-four hours after the original cooking.

Regarding spoilage, Mrs. Brown says that "Homecanned foods, especially the so-called non-acid foods, or those in which acidity is low, are subject to a type of spoilage particularly dangerous because it is not always recognized."

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RECENT ADVANCES IN THE TREATMENT OF RUPTURED (LUMBAR) INTERVERTEBRAL DISKS

WALTER E. DANDY, M. D. Baltimore, Md.

Ruptured lumbar intervertebral disks, discovered fifteen years ago, are now among the most common lesions coming to surgery. Their diagnosis and localization are simple, almost absolutely certain, and a cure is practically assured and almost without risk. The story of the early development of this field is now well known but in the past three or four years both the diagnosis and treatment have been revolutionized. Only these recent all important discoveries will be considered here.

The diagnosis can now be made solely upon the history of low back pain plus sciatica down the back of the leg and occurring in attacks; nearly always the backache and the pain in the leg are intensified by coughing and sneezing during the acute stage of pain. In ninety-five out of one hundred cases with such symptoms a ruptured disk will be the cause. Three other conditions may cause the other five per cent: spondylolisthesis (2%), congenitally defective fifth lumbar vertebra (2%), and tumors of the cauda equina (1%). An x-ray of the lumbar spine will diagnose or eliminate spondylolisthesis and a congenitally defective vertebra. Tumors of the cauda equina (1%) of the total), therefore, give the only problem in diagnosis. The symptoms may not differ from those of a disk but the backache may be higher and there is frequently loss or diminution of patellar reflex. Should a tumor be present, a lumbar puncture will show xanthochromic fluid. Only the suspicion of a tumor justifies a lumbar punc-

Only two examinations are important:

- (1) X-ray: In addition to excluding or diagnosing the above lesions, positive evidence of a disk is frequently indicated in the lateral view by narrowing of an intervertebral space.
- (2) The Achilles reflex: This is normal in over half the cases, but when reduced or absent the disk is usually at the fifth lumbar. It is, therefore, important only for localization of the disk.

TYPES OF DISKS

There are two types of disks: (1) protruding and (2) concealed (very slightly protruding or not protruding).

The latter are twice as frequent as the former and it is their disclosure that has cleared the whole subject of disks. All of these will be missed if spinal injections of lipiodol, air, etc., are used for diagnosis. And their symptoms are precisely like those of the protruding disks. They can be found at operation just as unequivocally as the larger disks. Always the nerve root is adherent and the thinned ligament overlying the disk gives a sense of fluctuation to the forceps. When the ligament is punctured the forceps dip into a big cavity of the necrotic disk.

All affected disks have two components: (1) the necrotic interior, and (2) the part that protrudes or attaches itself to the nerve. The former causes the backache, the latter the sciatica.

Read before the Association in annual session, Birmingham, April 21, 1943.

SPINAL INJECTIONS OF LIPIODOL, AIR, ETC., CONTRAINDICATED

Until recently ruptured disks have been diagnosed and localized by spinal injections of lipiodol, thorotrast, air, etc. All are strongly contraindicated because they fail to disclose the small (concealed) disks which are two-thirds of the total. All disks can be diagnosed and localized without these contrast media, hence they are superfluous; moreover, if dependence is placed upon them, the two-thirds that do not show by the injections are denied the cure that surgery affords. Spinal injections are painful, and unless the liquid contrast media are removed they are permanent deposits having free access to all the fluid-containing spaces of the brain. Even spinal punctures contribute nothing and should be avoided.

LOCALIZATION OF DISKS

Ninety-eight (98) per cent of all lumbar disks are at the fourth and fifth. This was first shown independently by Love at Mayo's and Spurling of Louisville, and subsequent reports including our own have not changed this remarkable localization. This fact alone makes unnecessary any need for contrast media in the spine. It is almost as easy to explore both disks if it were necessary. But there are now methods of determining which of the disks is involved in over 90% of the cases. If there is a diminution or absence of an Achilles reflex, the disk will be at the fifth in most instances. The x-ray shows a narrow interspace in many instances. When these tests are still negative the affected disk can be localized at operation in perhaps 85% of the cases by horizontal pressure upon the spinous process. This determines the mobility of the joint, and a defective disk will nearly always cause an increased movement at the affected joint. The exceptions to this rule are in narrow intervertebral spaces shown in the x-rays; there may then be no mobility, or less than normal.

About 80% of all patients with ruptured disks have two—one at the fourth and the other at the fifth. And since it is rarely possible to diagnose double disks before operation, the exposure of both is quite frequently done, especially when the increased mobility of the joint is demonstrable by pressure on the spinous process.

The unusual disks at the second and third are usually localized by pain in the front of

the thigh; the others give pain in the back of the leg.

TREATMENT OF RUPTURED DISKS

The treatment of ruptured disks is directed by the character of the pathological process. Both the protruding disk and the necrotic interior of the disk must be removed. If only the protrustion is removed the backache continues and recurrence of sciatica reaches a very high percentage. The cure of a disk requires removal not only of the protrusion but of the entire necrotic interior of the disk. This is done by thorough curettement. If this is carefully done I do not think a disk can recur.

TREATMENT OF THE LATERAL JOINT

When there is excessive movement between the vertebrae, I have opened and curetted the cartilage from the lateral joint on the side of the exposure. This unquestionably adds to the stabilization but I am not certain that it is necessary. The surfaces of the bodies of the vertebrae after thorough curettement afford such a large area for fusion that fusion of the lateral joints is probably unnecessary. One such joint has been exposed five months later and was absolutely solid; nor was there any movement between the vertebrae which was very loose at the first operation.

CONCERNING SPINAL FUSION OPERATIONS

At the present time spinal fusions have attained a considerable vogue. The reason for this is that disks have been improperly treated in that the interior of the disk has not been removed. When the entire necrotic disk has been extirpated, firm union occurs between the vertebrae. There is no indication for fusion operations for ruptured disks and every reason for avoiding them. They require three months in a cast—a severe ordeal on the patient. The disk operation itself requires no cast and the patient is out of the hospital in ten days to two weeks.

HYPERTROPHIED LIGAMENTUM FLAVUM

Frequently an operator claims the symptoms and signs of a presumed ruptured disk are due to a hypertrophied ligamentum flavum. This is merely a self satisfying explanation for negative findings. A thickened ligament cannot cause these symptoms. Always there is a disk.

THE ANATOMICAL REASON FOR THE FACT THAT NEARLY ALL DISKS OCCUR AT LUMBAR FOUR AND FIVE

The reason for this concentrated localization of disks to only the fourth and fifth lumbar vertebrae is, I think, explained on an anatomical basis. The planes of the articulations between the vertebrae change markedly at those two sites. Viewing the skeleton from behind it will be seen that the joints of the upper three lumbar vertebrae are parallel to the spinous processes. The plane of the fourth turns 45° and that of the fifth 90° from the horizontal. There are many variations in the degrees of rotation of the joints, the above being the maximum, but always this trend occurs and, because of this, greater movement of the spine principally flexion and extension but some rotation—is obtained at these two points. The same transverse planes of the articulations occur in the cervical region where maximum movement is obtained. Disks also occur in the cervical region though less frequently because a lesser weight is superimposed.

RESULTS OF DISK OPERATIONS

To date 506 disks have been operated on. Always recognizing the importance of treating the interior of the disk, the treatment until recently had been only to break up the interior with an instrument and depend upon the subsequent spontaneous extrusion of the necrotic content through the surgical opening in the posterior ligament. The last 300 disks have been thoroughly curetted during the past year. Of these there has as yet been no recurrence, but the time interval of one year is too short for comparison. However, I feel that recurrences should now be rare if the treatment is properly done.

The recurrences from the entire series are 25, or nearly 5%. If the thoroughly curetted joints are excluded the recurrences in the series up to that time would be 14%.

From the last 400 operations a disk has been missed only once, a tumor being responsible. In none of these has contrast media been used.

CONCLUSIONS

- (1) Ruptured disks are among the most common lesions coming to surgery.
- (2) Spontaneous cures must be very rare, although temporary remissions are the rule.

- (3) There are two components of a ruptured disk: (1) the necrotic interior of the disk causing backache, and (2) the protruding portion causing sciatica.
- (4) The diagnosis of a disk is made solely upon the signs and symptoms and x-rays of the spine. All disks can be diagnosed correctly and found at operation.
- (5) Spinal injections of contrast media and spinal punctures are contraindicated; they are unnecessary and they will diagnose only one-third of the total number.
- (6) The small (concealed) disks outnumber the markedly protruding ones two to one. They cannot show with any spinal injections of contrast media. It is the recognition of this group that has cleared the whole field of disk lesions. Their recognition at operation is unequivocal.
- (7) Two disks in the same patient occur in about 80% of the cases. Occasionally there is a third disk.
- (8) The exposure is unilateral and between the laminae without removal of any bone whatever (Love's operation), or when the interlaminal opening is too small the removal of a small bite of lamina may be necessary.
- (9) Mobility of the vertebra, tested by pressure on the spinous process, will usually determine whether the disk is at the fourth and fifth lumbar (98% are at these two disks), or at both.
- (10) The entire necrotic content of the interior of the disk should be thoroughly removed with curettes. This is the best insurance against recurrences.
- (11) Fusion operations are unnecessary and are contraindicated. Fusion of the vertebrae occurs after removing the necrotic contents of the disk.
- (12) The reason for the localization of 98% of the lumbar disks to the fourth and fifth lumbar is probably due to a shift in the plane of the lateral articular processes from the horizontal to a transverse direction.

The time has arrived for this Association to assert in an open and dignified way its claim to advisory authority upon all public health questions. Its record is certainly such as to entitle its counsels to respectful consideration . . . and it can well afford to challenge investigation of that record.—*Trans. M. A. Ala.* 1901.

AVIATION MEDICINE

CAPTAIN B. GROESBECK, JR.
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Prior to the entry of the United States into the present world conflict, Aviation Medicine was not well known to the medical profession of this country. Indeed, the practice of Aviation Medicine was confined to the armed forces and to a small group of civilian physicians who performed the specialized physical examinations then required by the Civil Aeronautics Authority. The lack of interest was due not only to lack of knowledge concerning the scope of Aviation Medicine but also probably in part to the fact that the only schools offering comprehensive courses in the subject were those conducted by the Army and Navy; and it is only a few years ago that the Navy founded its own school at Pensacola.

The outbreak of war has markedly changed this situation. Aviation has grown tremendously. As a result of this growth, the old problems of aviation physiology and aviation psychology have presented themselves with greater force; and to the old problems have been added a multitude of new ones resulting from an expanding personnel and from improved airplane performance.

Superficially it might appear that specialized training in Aviation Medicine is unnecessary. I am afraid that it is still the opinion of some individuals that any good dector can perform the duties of a Flight Surgeon. If this were true, it would greatly simplify the problem of supplying medical officers to the aviation units of the armed forces; but unfortunately, it is not true. Specialized training is necessary, in ophthalmology, psychology, neuropsychiatry, and physiology as they bear on the problems in aviation.

We feel, at the Naval School of Aviation Medicine, that a basic knowledge of these subjects is an essential for the proper performance of the duties of a Flight Surgeon. Without them, he is incapable of properly carrying out the functions of selection and maintenance of the pilot.

With regard to the selection of pilots, it is fairly generally known, I believe, that the physical examination which must be passed is a very rigid one. Emphasis is placed on the integrity of the visual apparatus and of the cardiovascular system. But physical fitness is not the only question involved in selection. It is equally as important to evaluate the mental fitness of each candidate for aviation duty. The work done on one aspect of this problem not only shows the importance of mental aptitude for flying but illustrates the way in which problems in Aviation Medicine are handled.

Even prior to the outbreak of war, the Navy had developed a battery of psychological tests, the purpose of which was to eliminate men who had little if any chance of learning how to fly. These tests have shown a high degree of validity, and, by eliminating the unfit, have effected great savings in time and in money in connection with our aviation training program. The attrition rates of our training schools cannot, as yet, be published; but it can be said that the application of the psychological tests has very definitely decreased the attrition rate.

Of course, we are not entirely pleased with our present tests, because they do not have 100% validity. There are still people who pass the tests and who are eliminated at some stage in their training. Furthermore, the tests were designed to select people who could learn to fly. At the present time, those tests do not tell us how well a man can fight and it is our aim to so modify and develop the psychologic tests that we may have some measure of predicting a man's ability not only as a pilot but also as a fighter pilot.

From this you can appreciate that the question of selection involves work not only in the field in the actual physical examination of candidates, but also in the laboratory in connection with the development of

Read before the Association in annual session, Birmingham, April 21, 1943.

Officer-in-Charge, Naval School of Aviation Medicine, U. S. Naval Air Training Center.

The opinions and assertions contained herein are those of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

these various tests. The same thing can be said of maintenance.

Maintenance of the pilot not only includes the work of the Flight Surgeon actively attached to the operating squadrons in the field but also the very necessary research work performed by the Flight Surgeons in the various laboratories in the country.

A great deal of the research being done in the United States is being conducted in civilian laboratories through the help of the National Research Council. This body has created a Committee on Aviation Medicine which has subcommittees interested in particular problems, and through them civilian research work is divided and coordinated. In the Navy, research in Aviation Medicine is conducted at the Naval Medical Research Institute in Washington and in the Research Section of the Naval School of Aviation Medicine at Pensacola, Florida.

The problems concerned with the maintenance of the pilot are many and varied. At Pensacola we are particularly concerned with anoxia, and, as a corollary, with oxygen and oxygen equipment. It is pitiful to think that in spite of all that has been done in the development of adequate oxygen equipment, and in spite of the training which the student pilots receive in the use of oxygen and oxygen equipment there are still needless deaths from anoxia. The oxygen equipment presently in use imposes a definite ceiling on man because even the delivering of 100% oxygen to the mouth will not, at great altitudes, supply sufficient alveolar oxygen pressure for the maintenance of life. The answer to this appears to be in the use of supercharged cabins or "pressure" suits; but the answer is not as yet crystal clear, and even pressurization will have its limits.

Another problem is that of aeroembolism or "bends" which develops as a result of the formation of gas bubbles in the body when the atmospheric pressure is suddenly and sufficiently reduced during ascents to high altitude. This condition manifests itself in the form of joint pain, "chokes," or other symptoms. In the case of "chokes," there is substernal pain and very definite embarrassment to respiration, which, in some instances, we feel may be associated with cardiac insufficiency. Of course

aeroembolism seldom appears in individuals who are exposed to altitudes below 30,000 feet, and at the present time there is little need for apprehension concerning this condition because our planes seldom fly above that altitude. However, there is no reason to believe that in the future planes will not go higher than that and we are therefore very much concerned with the best method of selecting bends-resistant individuals. By means of tests in low pressure chambers we are endeavoring to develop a procedure which will predict the ability of the individual to resist the effects of high altitude. So far we do not have a satisfactory answer to this problem; but we are still working on it and hope that in the not-too-distant future an adequate test will be devised.

The effect of acceleration, commonly known as "blackout," is another interesting problem. There is a limit to which man may experience the effect of gravity or acceleration and still maintain vision or consciousness. If we are to have planes capable of withstanding even greater accelerations than we have at present, we will have to find ways of increasing man's tolerance to acceleration. It is interesting here again to realize that the human organism is the limiting factor in aircraft performance, because aeronautical engineers already can build planes with such performance that man cannot fly them.

With respect to some of the clinical problems of the Flight Surgeon in the Navy, it should be emphasized that he may be afloat or ashore, and some of the shore duty may be under definitely primitive conditions. He has therefore not only the problems of Naval Medicine but those of Military Medicine and of Aviation Medicine as well.

Perhaps his biggest problem is in dealing with pilot fatigue. The problem here is not merely one of etiology, because we know the factors precipitating pilot fatigue. The problem is to recognize pilot fatigue in its earliest stages, remove the cause and aid the rehabilitation of the pilot. If pilot fatigue is allowed to continue until a neurosis is established, the chances of rehabilitation of the individual and the chances of his return to aviation duty are practically nil. If, however, the condition is recognized, either by early changes in personality or by other signs with which the Flight Surgeons are familiar, it is possible to ground those

pilots, remove them from the combat area, and, after a period of rest, return them to combat duty. In order to be in a position to detect these early changes, the Flight Surgeon has to be on intimate terms and in close contact with the men of his squadrons. Of course there are certain cases of inaptitude for combat duty which sometimes are confused with true pilot fatigue. Under our present method of selection, we may expect that a certain percentage of our pilots will not be psychologically adapted to combat duty. These pilots will "crack-up" early under combat conditions and, unless detected and grounded by the Flight Surgeon, they may be shot down by the enemy. The subject of pilot fatigue has been studied very thoroughly by British observers, and there is little, if anything, that we have been

able to add to the knowledge concerning this condition. It is possible that as a result of an effort to place pilots where they are best fitted for a particular type of flying, the percentage of individuals found psychologically inapt will very materially decrease, and the process of selection along that line is developing rapidly.

Aviation, and with it, Aviation Medicine, is developing rapidly. The number of graduates of the Army and Navy schools is ever increasing, and even should the war cease in the immediate future, there would be so many practitioners of Aviation Medicine that interest in the specialty must of necessity continue to increase. Aviation itself has by no means reached the peak of its development; neither has Aviation Medicine.

SUGGESTED TREATMENT OF MENINGOCOCCIC, PNEUMOCOCCIC, AND INFLUENZAL MENINGITIS

WITH SPECIAL REFERENCE TO THE SULFONAMIDES

STEWART H. WELCH, M. D. AND VERA B. STEWART, M. D. Birmingham, Alabama

This presentation is not intended to be controversial; it is not intended to decry present day accomplishments. Due to the limited number of cases it cannot be classed as statistical. It can be compared with but not included in statistics of the past.

THE PURPOSE

The purpose is to submit for consideration and trial a procedure or procedures which have given outstandingly good results in the authors' experiences. Looking over a personal interest, and experiences dating back through a long period of years, the authors offer a selective scheme of therapy suggested by many less satisfactory procedures.

For the sake of brevity this discussion is limited to the meningococcic, pneumococcic and influenzal meningitides. The treatment suggested has been applied in at least a few cases of these three varieties.

GENERAL CONSIDERATIONS

There are certain general considerations which require brief comment.

Meningococcic meningeal infections, both in epidemic and sporadic occurrences, show

wide variation in morbidity and mortality. Since this is a fact, the statistical comparisons are more accurate if confined to the same epidemic.

It is an accepted fact that there are many types of meningococci and that at least the first four better known types are included in the antitoxin and specific sera.

Meningococcal infections are usually acute; chronic infections do occur. It is not to be overlooked that the infection occurs first as a blood stream infection. Meningeal infection and symptoms may be delayed and at times the infection persists as a meningococcemia.

The exudate is at first serous, but quickly becomes purulent and later becomes more fibrinous. Necrosis of parts of the brain close to the meninges may occur; the subarachnoid veins and longitudinal sinus may be thrombosed, and there may be a purulent fibrinous exudate in the subarachnoid spaces of the cord. In the chronic cases adhesions develop. The average over-all mortality rate today is around 50%.

PNEUMOCOCCIC MENINGITIS

Pneumococcus meningitis is more difficult. The introduction of the sulfonamides has reduced a mortality of practically 100% to 66% or possibly 50%.

Here again the spinal fluid exudate is serous at first, becomes purulent and tends more rapidly to a thick fibrinous exudate. The exudate may be patchy or confluent. Fibrinous exudate occurs much earlier than in the other two.

The sources of origin are the middle ear, the mastoids, the nasal accessory sinuses, less often throat infections and the pneumonias.

The most common types of organisms are given as types III, V, XIV, XVII and XXIII. Typing is important since it directly affects prognosis and is necessary if specific sera are to be used. Unfortunately today, much used sulfa therapies, even in inadequate doses, quickly make typing unlikely so that many cases which are admitted to hospitals cannot be typed.

INFLUENZAL MENINGITIS

Influenzal meningitis like the pneumococcus had a mortality rate of practically 100%. Use of Alexander's specific rabbit serum has lowered the death rate slightly.

The spinal fluid is clear for a longer time than the other meningitides but the exudate tends to thicken with duration of infection and may be very thick in later stages.

In all these infections we realize that true abscesses, any walled off pus or very thick fibrinous exudate make it most unlikely or impossible to obtain sufficient penetration to give an effective concentration. Therefore, recovery necessitates, when possible, the drainage of all primary or secondary encapsulated pus, and emphasizes the necessity of early and most effective therapy.

PUNCTURE OF CEREBROSPINAL SPACES

Indications for entering the cerebrospinal spaces should be limited and avoided unless truly indicated. It should be handled as a surgical procedure.

These indications in the meningeal infection may be well given as follows: (1) for diagnosis; (2) for laboratory information or study; and (3) for relief of pressure, and this indication today in the authors' opinion is far less frequent than was the custom of the past.

Intrathecal therapy, in our opinion, has no place in the treatment of the meningitides under discussion.

The question is: Is your patient getting well and more important when is he well? Not infrequently this cannot be determined by the appearance and behavior of the patient, nor can the question be answered by a study of the chart.

A schedule is offered:

- 1. General and progressive return to normal.
- 2. The temperature to become and remain normal.
- 3. Neck resistance, not infrequently surprisingly slow, to be replaced by maintained normal flexion.
- 4. The blood: Established negative cultures. Normal white cell count with normal differentials. The red blood cells and hemoglobin are to be followed for possible pathologies.
- 5. The spinal fluid: The chemistry, pressure and clarity should be normal. Culture and smear to show no organism.
- 6. Having established the above, unquestionably the best answer is in the spinal fluid cell count and cell differential. A laboratory specimen consists of from 1 cc. to 5 cc. of spinal fluid, depending on the information desired.

Exacerbation and relapses can, in our opinion, be very much lowered if the recovery evidence is to include fully normal spinal fluid. While this is a wise procedure in all three types of infection, it is most important when any of the pneumococcal infections is the offender. Not infrequently with the pneumococcus, exacerbations and relapses do occur, and are more apt to end fatally.

THE SULFONAMIDES

Whatever claims may be advanced, the cutstanding possibilities of morbidity and mortality reductions are in favor of the sulfa drugs.

The drug's effect is influenced by the type only in a few instances, in certain pneumococcic infections. The most definite possibility for consideration of selection of dye is the pneumococcus No. 111.

The sulfa drug or drugs of selection, in our opinion, are very important. There is a real difference between theoretical and practical application as to useableness and complete accomplishment.

It is agreed that sulfanilamide, sulfapyridine, doubtfully sulfathiazole, and sulfadiazine are of real treatment possibilities in all three of these groups. Their actual application is the basis for this presentation.

Sulfanilamide and sulfapyridine, because of too frequent episodes of toxic symptoms, make them too uncertain in the development and maintenance of the necessary concentration to complete and establish recovery. Since episodes of toxicities occur frequently in the same case and relatively in a large number of the cases, we of necessity are looking for a sulfa derivative with less toxicity and with at least as much effectiveness.

We know full well that in all of these dyes that there is an unquestionable percentage of individuals who have a definite and true intolerance to the average dose and a larger number to the larger doses. The more accepted intolerances are given for sulfanilamide as for average doses of 10% and larger doses of 15%.

Sulfapyridine leads all of the used dyes in the occurrence of nausea and vomiting and bloody urine. The production of acetyl sulfapyridine causes crystallization and bloody urine. Toxicities necessitate frequent interruptions or discontinuances of therapy. Were it not for these toxic manifestations sulfapyridine would be accepted by the majority of all practitioners as the most selective and effective of the present known sulfonamides. It is the most effective in all of the three meningitides under discussion.

REGIMEN OF TREATMENT

Based on our own, the experience locally of others, and the literature, we now offer a treatment regimen. We present briefly cases as examples and as a basis for the establishment of needed and more likely curative procedures. We do emphatically call to your attention the evidence that the death rate in the meningococcic group, particularly in the severe sporadic and epidemic cases, is too high. There can be no argument as to the rate in the other two groups.

AIDS TO DIAGNOSIS

- 1. Early hospitalization, to include suspicious cases.
- 2. Early and intelligent diagnosis. History to include which sulfa drug, the dose,

- and duration of treatment. Most cases have had some sulfa treatment.
- 3. Clinical and laboratory study: (a) Complete blood count and blood culture.
- (b) Spinal fluid investigation not to be postponed if indicated or reasonably suspected.
- (c) Important facts are: The pressure, the character (clear or cloudy), the chemistry, a prompt cell and differential count, a careful and, if necessary, prolonged search for organisms, and a culture or cultures on properly selected media.
- 4. When the pneumococcus is the infecting organism, every effort to be made to type, using all available material.

THE TREATMENT

Having established the diagnosis, select the drug to be used. Regardless of variable absorption, variable elimination, its tendency to formation of kidney stones and true kidney pathology, we use sulfadiazine. Sulfadiazine is well tolerated and readily appears in the spinal fluid. As quickly as possible, establish and maintain the desired high spinal fluid concentration. In order to accomplish this, initiate treatment with large doses. Stepped-up dosages are not likely to be successful. Full doses given orally frequently lead to disaster.

We recommend that the dose for twenty-four hours, based on body weight, should be given at least 50% by vein and the remainder by mouth. In event of toxic vomiting due to the infection, we start with 100% by vein and usually within or by the end of twenty-four hours the vomiting is controlled and we are able to give part of the required dose by mouth. Intravenous administration is to be continued one or two days when likely all can be given orally. The intravenous procedures are to divide the twenty-four hour amount desired in three installments or give by slow drip continuously.

Since the dose necessary for desired concentration is unknown we have found effectual the use of four or six grains per pound of body weight. With satisfactory concentration, the maintenance dose can be scaled to fit maintained effectual concentration. The treatment should be continued to insure complete recovery but when there is the slightest doubt, a laboratory specimen of spinal fluid should be obtained.

With the pneumococcus it is wiser in every instance to know that the spinal fluid and its cell count and differential are normal before the patient is discharged. Once the spinal fluid concentration is established and progress is fully satisfactory the blood concentration is sufficient evidence of maintained spinal fluid concentration.

ADVANTAGE OF THIS TREATMENT

- 1. Large doses are better tolerated in the beginning. Especially is this true if given in part by vein. The period of time for the need of large dosage is very much shortened.
- 2. A quick high concentration, especially in early cases, catches the organism before it establishes habitat and builds up protection. High quick concentration does not permit it to become proof against the drug.
- 3. A shortened and quickly controlled infection decreases most effectively the development of complications and sequelae.
- 4. Quick recovery in every way is less strain and drain on resources of the patient.
- 5. Specific antitoxin and sera may be given at the same time if desired or indicated.

PRESENTATION OF CASES

In an effort to demonstrate and classify our convictions, we offer a series of selective seriously ill cases.

Case No. I

The chart of a very gravely ill meningococcic meningitis.

An infant female, age 5 months, admitted March 3, 1938, died May 14, 1938 after seventy-two days of illness.

Sulfapyridine and sulfanilamide were used, the latter being better tolerated.

Spinal fluid concentration of 18 mg. to 20 mg. per cent readily obtained and maintained for variable times.

Episodes of, usually, vomiting interrupted fully satisfactory progress. At times the infant ate well and appeared well.

The picture was a series of cycles of pleasing betterments and exacerbations.

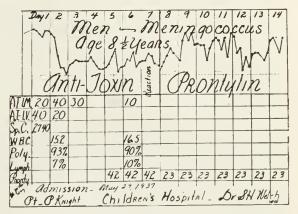
For the entire duration the case was an acute case.

Both drugs were effective except for toxicities.

Patients do recover with either drug but the long period of illness caused by intolerances too often leads to loss of control and final death.

We do not feel that a different method of administration of these two dyes is the answer.

Case No. II



The patient failed to respond satisfactorily to antitoxin in five days—there was some question of finance. She appeared most critically ill.

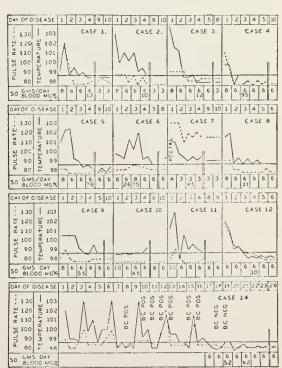
With a planned dosage of six grains per pound of body weight, an effort to step up doses failed in that we not only were not able to increase the dose but had to decrease it.

Reaction to antitoxin with delayed skin rash influenced us in the giving of a small dose of antitoxin. This dose prolonged the duration of the reaction and possibly the hospitalization.

No concentrations were taken. The white cell and differential counts evidenced unsatisfactory progress.

The patient recovered after a month's illness.

Cases No. III and No. IV



Chinical course in 13 cases of meningococcic infection. SD= sulfadiazine; B.C.= blood culture. Cases 1 to 12, meningococcic meningitis; case 14, meningococccinia with arthritis.

Dingle, Thomas, and Morton, J. A. M. A. June 14, '41, Vol. 116, No. 24.

These fourteen cases (Dingle, Thomas and Morton), with one death, were the first group to come to our attention in which sulfadiazine was used. The results are most astounding when compared with every phase of accomplishments with the use of the other three drugs.

The concentration was rather low but the temperature was normal in two to four days and recovery followed.

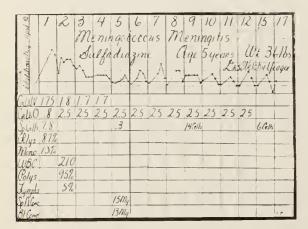
Case No. V

	Tr.						
C.H.		2	3.	4	5	Disch Conti	To NUE Drug
Kimt	100	1/1	eni	W&(COC AA	:Cus	5
16 ya /c	diaz		Ago	080	1220	PN.	
000				DRS	. Welc	Wt. h - Y	40 * Eager
O. Marce	.75	.75	0.5	0.5	0.5		
Sp Cells I	<u>5</u> 29	2.5	2.5	2.0	2.5		
Poly	70%		50%				
Mono /		177	20%				
WBC. Polys		17.3 84 _%					
Lymphs		16%					
URINE			Blood		2-4 RBC		48 5

This chart shows a fully normal temperature in twenty-four hours and could readily be substituted for an ideal response in pneumonia.

Four grains per pound of body weight for the first 48 hours; 50% of the dose given intravenously and after the second day a maintenance dose of two grains per pound of body weight.

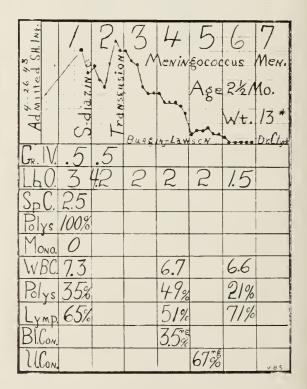
Case No. VI



Four and three-tenths (4.3) grains per pound of body weight was given until temperature was normal on the third day.

Fifty per cent of dose given by vein, the maintenance dose two grains per pound of body weight.

Case No. VII



This case is of interest because of age and, second, the history that the father had visited daily a friend in an Army hospital who then or later was diagnosed as having meningococcal meningitis. The father played nightly with the baby. Onset with high fever and convulsions in early morning; after a few hours brought to the hospital in convulsions and coma. The oral dosage was initiated by tube. The use of the tube was discontinued after the first twenty-four hours.

Case No. VIII

The treatment began with sulfapyridine but after the first intravenous dose, at my suggestion, sulfadiazine, four grains per pound of body weight, was given for four days. At the close of the second day the smear showed a few organisms and for that reason the intravenous dose was maintained for another twenty-four hours and then a maintenance dose of three and fourtenths (3.4) grains per pound of body weight.

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GRLSIV 4	2	1.6		~~	مهرف می	•	
Irlb 0. 2.5 Sp.Cells 2.8	2.3	2. 3	3.4	3.4			
Poly 12% Mono 88%							
WBC. Poly	15.0 74%			12.2 72%	Transfusion		
Lymph	26%			28% 15mg			
Bl. Conc				ISIVIQ	15mg	((1)_	101

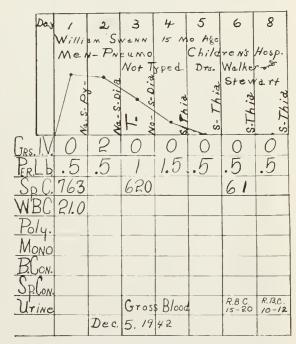
Case No. IX

Admitted SHINE.	S.diAZ TR 500cc BL	57,61 IV \ 55,600 00 \ 54,61 IV \ \ 50,000 00 \ \ 50,00	3 KO 00 00 00 00 00 00 00 00 00 00 00 00 00	4 M	5 N. Dr. B.	AGE	Mahai 16yr V SHI.	Vt 13016
GRIV		1						
Lb.0		.5	1.2	1.5	2	2	1.1	.6
Sp.C		13m						
Polys		99%						
Monc		17.						
MBC		303	15.6				9.85	
Polys		90%	87%				67%	
Lymp		10%.	127.				30%	
Bl. Gn				4.39	53	9.8	8.5	8.8
U. GN								

An excellent demonstration of the wisdom of a figured 24-hour dosage, a division of this dose into the desired intravenous and oral doses, and these doses at regular intervals. The doctor, impressed by an editorial which suggested intravenous use of the drug, gave frequent intravenous medications but when the number of grains per pound were actually figured, the total

was surprisingly low. He stated that because of the frequency of vein medication he thought he was giving an extremely large dose. The temperature curve and duration of illness are in keeping with actually estimated dose per pound of body weight.

Case No. X



A demonstration of multiple doctor advise: the rapid shifts from sulfapyridine, sulfadiazine and sulfathiazole. The shift to sulfathiazole was in part influenced by the appearance in the urine of gross blood. Every doctor giving advice changed the drug. Sulfapyridine likely played an important role in the production of gross blood in the urine.

Twenty-four hours before the sulfathiazole was discontinued there were sixty-one cells, with predominance of polymorphonuclear cells. Three days later the infant was discharged with the appearance of full normal.

Dr. Welch predicted an exacerbation. The promise was given to try our suggested therapy in event of readmission.

During the four days of normal temperature this baby appeared fully normal—good appetite, slept quietly, sat up in bed and played with toys.

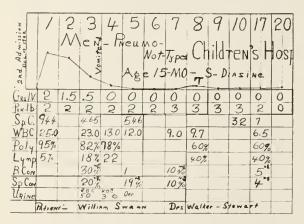
Case No. XI

Readmitted after twenty-four hours with $102\text{-}3/5^\circ$ temperature, meningeal symptoms and a cell count of 94 and 95% polymorphonuclear cells.

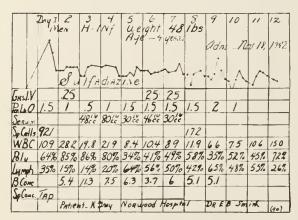
The dose, four grains per pound of body weight, was given to control. Fifty per cent and less given for three days by vein, then a maintenance dose of two grains and three grains respectively. The concentration was 20 mg. per 100 cc. to 10 mg. per 100 cc. of spinal fluid.

In forty-eight hours the spinal fluid concentration was two-thirds of the blood concentra-

tion. In five days the two concentrations were the same. The recovery was progressive and complete including spinal fluid cell count.



Case No. XII



One of us (Dr. Welch) was asked for treatment suggestions and advised six grains per pound of body weight, 50% or more by vein. An initial dose of .25 grain per pound was given and later, on the 5th and 6th respectively (corrected) day of illness, was repeated. A small oral dose was continued throughout. The doctor in charge shifted to a headlined use of Alexander serum.

Regardless of the recovery, we feel that a quicker recovery and more positive recovery could have resulted with the suggested therapy, probably without or with the serum.

CONCLUSIONS

- 1. Sulfadiazine is the drug of selection in lieu of a better drug.
- 2. This method of treatment is offered to increase recoveries, to decrease duration and severity of illness, and to minimize complications and sequelae.
- 3. Quick spinal fluid concentration is the aim and this necessitates large doses. Large doses are better tolerated if they initiate the treatment and the period of time large doses

are needed is shortened. Accomplishment and tolerance are very much more likely if 50%, in some cases 100%, is given by vein until progress justifies maintenance of treatment orally.

- 4. Laboratory specimens of spinal fluid are of necessary value, in diagnosis, treatment progress or its failure, and in the final analysis of determining recovery. A clear spinal fluid with normal cell count and normal differential is demanded in pneumococcal infections. It is our best and apparently our only safeguard against exacerbations and relapses.
- 5. The course and recoveries merit in some degree favorable comparison with the pneumonic group.
- 6. This presentation is based on pediatric application. We feel that it, without doubt, deserves consideration in adults.

There seems to be a general feeling of apprehension throughout the country that education is about to become regimented and militarized. I do not believe this to be true. The educational system of the United States is too well founded in its fundamentals to be seriously disrupted by any temporary upset due to necessity of war. True, some lasting changes may occur, but these are not necessarily bad. The United States Naval Academy at Annapolis is an outstanding example of what a school designed to train line officers of the Navy should be, yet it would be a great pity if our system of education should be patterned too closely upon it. I think there is no danger of this, because educators of note as well as naval officers have had much to say as to what plan should be followed in this program. Courses will be condensed, certain subjects will be given additional emphasis, but, on the whole, a liberal education will be provided. The professors and instructors will be the same and they will not change quickly. They will continue to indoctrinate our youth in the virtues of decent living, tolerance, and kindliness just as they have in the past. Military discipline will be added, but this is to be desired. Physical training will be given a more prominent part, which, in the light of our knowledge of the physical unfitness of cne-third of the boys and men who apply for enlistment and commission in the Navy today, is most desirable. If the three things most generally associated with the Naval Academy training can be added to the curricula of our colleges, the youth undergoing this training will be greatly benefited and the nation will be most fortunate. These are unswerving loyalty, strict discipline, and incorruptible honor. If these become part of the training of our youth we shall have little cause to worry about the future of our country.—Sheldon, J. M. A. Georgia, September '43.

CONSTRICTIVE PERICARDITIS

CARL GROTE
Huntsville, Alabama

My excuse for presenting this rare and unusually puzzling disease is because three cases have passed through my hands in the last few years. The first two baffled me, and I missed the true significance of what was really happening. But the gods were good to me, though not so good to my patient, and when the third case came my way, I guessed the diagnosis early, followed him through all of its stages, and finally proved the diagnosis at autopsy.

According to Paul White, the first clearcut description of pericarditis was written by Lower in 1669. Laennec in 1819 wrote extensively about pericarditis, and Hope in 1839 seemed to realize that the disease might be of tuberculous origin. In 1873, Kussmaul called attention to the decrease in pulse amplitude in pericarditis, a symptom now known as the paradoxical pulse and is almost pathognomic of pericardial disease. In 1896, Pick described a secondary cirrhosis of the liver due to pericarditis and the disease to which I refer is often called Pick's disease. About the turn of the century Niels Finsen, a Dannish scientist and the real father of light therapy, became chronically ill. He, himself, described his symptoms as ascites, pleural effusions, enlarged liver and spleen, normal size heart, slight edema, cyanosis at times and increased venous pulsations in the neck. He disliked to be tapped so much he experimented on himself with low salt diet, limited fluid intake, and by taking magnesia and ammonium chloride. At autopsy, performed at his request, extensive pericardial disease with calcification was found. The history of pulmonary hemorrhages makes the diagnosis of tuberculous pericarditis in his case almost certain.

Rheumatic fever has always been associated with both acute and chronic pericarditis. Pericarditis is not a rare complication in the acute infections and septicemias. However it was not until recent years that the involvement of the pericardium in tuberculosis was appreciated. In 1923, Volhard published his paper on constrictive

Read before the Association in annual session, Birmingham, April 20, 1943.

pericarditis and described the mechanism, or modus operandi, of the disease. He pointed out that simple adhesions produce no symptoms but that greatly thickened adhesions and adhesions of the pericardium to surrounding structures, especially to the chest wall itself, do cause symptoms, because the heart is not able to dilate enough to carry on its work. It was he who called the disease concretio cordis, when the pericardium becomes calcified, and it was he who described the maximum signs of peripheral congestion and ascites with minimal signs of disease when examining the heart itself. In 1929 Churchill reported the first successful resection of the pericardium in the United States and just a little later Bigger did the second successful operation for this condition at Vanderbilt. Since that time many hundreds of successful pericardectomies have been reported by skilled chest surgeons from all over the world, and a condition that was usually incurable or resulted in a life of invalidism has been largely alleviated by surgery. In 1941, from the Vanderbilt Hospital, which is in our own environs, Blalock and Burwell reported 20 cases in which the operation was performed. Twelve (12) were living and doing well many years later. Of the 8 who were not living only 4 died immediately following operation. Considering the seriousness of the disease this is not a high operative mortality. Dr. Blalock operated on the first two cases that I saw and both were restored to health and are now earning a livelihood.

In 1936 I saw my first case of constrictive pericarditis due to tuberculosis, though I did not recognize it as such. I saw the patient early in the disease, a Southern gentleman of 61 years, from a neighboring town. He had fever, a rapid pulse, low pulse pressure, history of previous tuberculosis and x-ray evidence of tuberculosis of the lungs. I made a definite diagnosis of tuberculosis of the lungs. Five or six months later, I heard he had been operated on for a heart condition. I made it convenient to go to Vanderbilt to see him and there was introduced to concretio cordis, or adhesive tuberculous peri-

carditis. The patient still publishes the Limestone Democrat at Athens, Alabama.

In the spring of 1939, a negro boy, aged 23, came to me with low grade fever and cough. I had seen him the previous year with a similar condition and for the want of a better explanation called it influenza, but now the boy was worried about himself and I tried hard to solve the problem. types of blood tests were negative. X-rays were essentially negative, as were skin tuberculin tests. He changed doctors and soon I heard he had typhoid fever, which lasted three or four months, and then that he had tuberculous peritonitis. I saw him in consultation a few days later and agreed he had a tuberculous peritonitis. I also discovered that he had a pericarditis, but erred in believing it was a secondary condition. At Vanderbilt Dr. Tinsley Harrison made the definite explanation that he had constrictive pericarditis and that the ascites and pleural effusions were secondary. After many months of waiting for the disease to quiet down, during which time we did thoracic paracentesis about once each week, we sent him back to Dr. Blalock who stripped a portion of the adherent pericardium from the heart. The boy is now well and teaching school.

In July 1942 I went to see a man, age 42, who had a chill while working in a cotton mill. When I saw him his temperature was 103. It was then late at night and I felt he probably had a malarial infection. I gave him codeine and aspirin for his fever, and atabrine. Ten days later I was called back to see the same man. He had been better, up and around but on that day had another rise of fever. He then had a white blood count of 4,000, blood negative for malaria, all agglutination tests negative, but the fever persisted. I was unable to find any abnormal signs in his chest, or his heart, but I did find he had a definite respiratory grunt, blood pressure 110 80, and his pulse had become rapid. We considered x-ray of the chest negative to tuberculosis, though there was some congestion in both lungs, but we were more interested in the enlarged heart shadow which had a saccular appearance and we thought this might mean a pericardial effusion. We later found his heart sounds were very faint, his pulse more rapid and his blood pressure was 100 80; giving us a very small pulse pressure. There was

no sputum and his skin tuberculin test 1/10,-000 was completely negative. At this time, in spite of the negative tuberculin reaction, we made a guess diagnosis that he had tuberculous pericarditis and that he would run the same course as the two previous cases mentioned. For the first two months he ran a course which was almost typical of typhoid fever but without any laboratory evidence to support it. He then developed fluid in his chest, distended veins, enlarged liver, and abdominal ascites. During the next three months we did a paracentesis on either the chest or the abdomen 36 different times. We assured his family that when the activity quieted down we would take him to the Vanderbilt Hospital where, we believed, they would confirm the diagnosis and after a surgical procedure, he would have a fair prognosis. He entered that hospital on November 9, 1942, and a complete physical and laboratory study of his condition was made. In addition to the peripheral edema and ascites, they called attention to the fact his heart failed to shift when the patient was put in different positions and under the fluoroscope you could not see the heart pulsations. They were sure he had a paradoxical pulse, though of this I could never be sure. Their laboratory reports were essentially negative: the red cell count being 5,000,000 and the white, 6,000, with 14.7 gms. hemoglobin. They also found his venous pressure was 220 which was a marked elevation and practically confirmed the diagnosis of pericardial disease. However, they postponed operation, feeling the patient was steadily improving, and returned him home to me, on a high protein, low salt, limited fluid diet. It was at this time my patient began to grow worse, not due to the treatment but because, in my opinion, he had an acute flare up. He began running high fever again and his abdominal ascites increased. I knew he was losing ground and two months later I took him back to Vanderbilt and on this trip they found a normal venous pressure. They then felt the necessity for operative procedure had passed and his ascites was now probably due to hypoproteinemia. We brought him home and gave him blood plasma in large quantities but he continued to go down hill and died on March 11, 1943, exactly eight months from the beginning of his trying illness.

At autopsy we found adhesions throughout the chest cavity, the lungs to the pericardium and the pericardium to the chest wall anteriorly and posteriorly. The pericardium was adherent to the heart, especially in the area around the large blood vessels, but around the apex of the heart there was an exudate consisting of a cheesylike substance. The heart itself was unusually small in spite of the large heart shadow in the first x-ray. There were nodules in the lung adjacent to the pericardium and from this we recovered acid fast bacilli. When we opened the abdomen the findings were typical of a tuberculous peritonitis with a pseudo-membrane over all the intestines. The liver was very small, though we remembered many times during his early illness feeling the liver three fingers below the costal cartilage.

Our interpretation of all the findings was he had a tuberculous constrictive pericarditis in the beginning of his illness; that he evidently was improving from this condition but that he had a secondary involvement of the abdomen and really died from tuberculous peritonitis.

In conclusion, I have tried to call attention to three cases which I have encountered in the past eight years, all of which have been proven cases of tuberculous constrictive pericarditis. It is my thought that this condition may occur oftener than it is diagnosed. I have also tried to bring out the point that surgery, if skillfully done on properly selected patients, often affords most gratifying results.

Pregnancy is always of interest and particularly is this true when it involves the young diabetic who only 20 years ago was doomed to a meager existence for only a brief span of life and in whom any complication was apt to lead to coma and death. In spite of this fact, pregnancy is such a prevalent condition that even in this group some data were assembled. All of us have heard the saying that babies of diabetic mothers were apt to be unusually large at birth. Furthermore, we knew also that the fetal survival rate was poor and that not infrequently the mother had difficulty which at times caused death. Since insulin was introduced the maternal mortality has improved markedly, and I suspect the same is true of infant mortality, but pre-insulin statistics are too meager for accurate comparison. Now the diabetic child, instead of living only one year, has a reasonably good life expectancy and is maturing, marrying and reproducing.—Jordan, Virginia M. Monthly, September '43.

Osteomyelitis-In view of the histopathologic changes, the clinical manifestations of the disease are easily understood. The earliest symptoms-general malaise and high fever-are associated with the bacteremia. Chills are frequently associated with the passage of clumps of organisms from the bone focus by way of the marrow sinusoids into the general circulation. The patient may become dehydrated and toxic without notable symptoms from the local bone lesion. Usually by the tenth day there is local pain due to increased subperiosteal tension. Point tenderness on pressure or bone percussion may be demonstrated early, and the other signs of acute inflammation follow in time. The classic signs of the acute stage consist of high fever and a deep-seated brawny swelling near a joint, but if the process is a result of trauma the signs naturally follow at that point. Enlargement of the appropriate lymph nodes and sympathetic joint effusions are always of diagnostic aid. The blood picture shows a leukocytosis with increase in the immature forms of the cells, some degree of secondary anemia, and frequently positive blood cultures. Roentgenograms are of little value for early diagnosis.

The acute stage gradually goes into the subacute stage with a decrease in the systemic and a relative increase in the local manifestations. The process gradually becomes chronic and there develops a draining sinus which remains after the liberation of pus and subsidence of the infection. This sinus may persist until all necrotic bone is removed. Acute exacerbations may occur at periodic intervals when the drainage becomes inadequate, and during these flareups the blood culture may again become positive. During this stage the roentgenographic picture is characteristic.

In the acute stage, due to the predominance of constitutional symptoms, the treatment is supportive. It includes parenteral fluids to decrease dehydration and acidosis, transfusions to combat septicemia and anemia, and, in our opinion, also one of the sulfonamides to combat the bacteremia and septicemia. The principles in the care of the local bone lesion are adequate drainage and immobilization. There is a great deal of controversy as to the time of drainage and this depends to a great extent on the local lesion. The present trend is to operate as soon as the bacteremia can be brought under control and not to await the presence of demonstrable pus. We believe this middle course to be the wisest.

Drainage may be accomplished by incision of the periosteum, drill holes into the affected bone, saucerization, or subperiosteal resection of part of the bone. Simple incision of the periosteum and drill holes into the affected bone are inadequate procedures in most cases, but rarely is so radical a procedure as subperiosteal resection necessary.—Lewis, J. M. A. Georgia, September '43.

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TREATMENT OF UNCOMPLICATED DUODENAL ULCER

"The term 'uncomplicated duodenal ulcer' implies the absence of perforation, deep penetration, hemorrhage or gastric retention. The treatment of uncomplicated duodenal ulcer is a problem which is encountered so frequently that it constitutes a challenge to the ingenuity of the medical profession. This problem becomes even more important during wartime, when the incidence of duodenal ulcer increases. Great confusion regarding treatment has arisen because of the number and variety of therapeutic methods which are perennially finding their way into medical literature. Many of these so-called improved methods live a short period and die the natural death of fads, but some members of the medical profession go on applying them even after their sponsors have discontinued their use. Certain fundamental principles pertaining to peptic ulcer are not used sufficiently in the evaluation and treatment of this disease. Too often the local lesion is remembered and the patient who harbors the disease is forgotten."

Thus do Smith and Rivers¹ open their ex-

cellent discussion of this problem which, more and more, continues to harass both the victims and their medical advisers. The Rochester clinicians go on to remind us that "the capacity for healing possessed by ulcers is truly remarkable. Even when many factors promote chronicity, the natural tendency of the ulcer is to heal. It is obvious that the ideal time to heal an ulcer is early in its course. Unfortunately, many ulcers are allowed to continue because of the slight concern of the patient, the failure of his physician to recognize the symptoms early or because of ineffectual, incomplete treatment." And "the neurogenic factor in ulcer has been considered in other publications. Suffice it to say that this is probably the most important single factor in any case of ulcer. Its recognition is necessary first in the evaluation of symptoms. It becomes even more necessary in managing the actual healing of the ulcer, but in our opinion it offers its prime service in prevention of recurrence of ulcer." And we read the following highly significant lines: "Two points should be made clear to every patient whose ulcer is going to be treated by medical regimen. The first is that the responsibility for the healing of the ulcer belongs to him and that he should not expect to pass the responsibility to the physician, to the surgeon or to chance."

Smith and Rivers state that "it is clear that, while maintenance of anacidity by nearly continuous neutralization will lead to healing of a duodenal ulcer if maintained long enough, recurrences will not be prevented unless the underlying factors are eliminated. Our program must contain more than the inevitable diet list and alkalis if success is to be maintained."

"The treatment of uncomplicated duodenal ulcer then falls naturally into three parts: (1) the control of the ulcer symptoms which is usually rapid and rarely requires more than a few days, (2) the healing of the ulcer, which probably requires from twelve to twenty-four months, depending upon many factors, and (3) prevention of recurrences, which requires intelligent application of individual prophylactic measures during the rest of the patient's life. ."

"The patient with an average amount of pain referable to the ulcer or even mild distress is treated best by hospitalization. . . No other method of teaching the patient to

^{1.} Smith, Lucian A., and Rivers, Andrew B.: The Treatment of Uncomplicated Duodenal Ulcer, J. A. M. A. 122: 209 (May 22) 1943.

understand his own condition seems to work so well. Treatment is dependent for its success not on a routine and unvarying approach to what is always a variable problem but on the correct evaluation of the individual factors involved and institution of measures individually tailored for their correction. We have no fixed dietary program but use a type of diet commensurate with the severity of the symptoms. The variety of foods is rapidly increased so that at the time of dismissal from the hospital the patient's program will permit him to carry on fairly normal activity. We may start with frequent feedings of milk and cream, alternating every half to one hour with an alkaline powder or antacid, or we may even begin with bland diet given in three meals, with milk halfway between meals. Sedatives, antacids and antispasmodics are essential adjuncts in the treatment."

And we are told that "because of the tendency of ulcers to flare up during colds, family tragedies and the like, the ulcer patients should be forewarned to be unusually careful and, contrary to the usual tendency, to take feedings frequently, to eat lighter food and to use antacids more vigorously as a prophylactic measure during these times. The inability of many ulcer patients to learn from past experience is illustrated by the fact that most seasonal types of ulcer distress or pain could be prevented by adequate treatment prior to the expected episodes."

Not many physicians can hope to equal the experience and knowledge of Smith and Rivers in dealing with peptic ulcer. But most of us can keep up with their excellent teaching and can thereby endeavor to explain the situation better and more fully to our patients, with the result that the patients' improvement will be both more rapid and complete. The Rochester observers have indeed covered their subject well and, while some may think that they incline toward too much optimism, their article is well worth the consideration of all who treat peptic ulcer.

EQUALITY, LIFE, LIBERTY AND THE PURSUIT OF HAPPINESS

Reprinted from the May 1943 issue of the Oklahoma State Medical Journal.

1. All Men Created Equal: Of all the professions, groups and agencies in this country, it is doubtful if any can match medicine in the interpretation of the term "created equal" when applied to the art of living. It is eminently our business to speculate upon the creative forces and to come as close to the secrets of life as science will permit. Granting a comparable environment, we agree that in the light available to the majority of the signers of the Declaration of Independence, all men are created equal. But we now know better than ever before that life is composed of two sets of factors, the hereditary and the environmental, and that the influence of environment depends upon the character and quality of the transmitted genes.

In spite of this knowledge, medicine insists that all people, regardless of rank, moral, religious, social, or economic position, are entitled to all that medicine can give whether in the slums or in palaces. Without regard to rank and with tolerance for all, medicine takes broken bodies and strives to mend them, with a little medicine for the soul thrown in. Many would lose their equal chance in time of need if it were not for medicine.

2. Life: Medicine has been evolved to meet the insistent needs of society since the first painful cry of primitive man. It has grown to its present magnitude and efficiency with the sole purpose of helping to initiate the normal life and to foster and sustain the normal processes of the body while fending the individual and the community against disease and accident. The guidance of the expectant mother, the saving of life in infancy, and the fostering of health in childhood and adolescence, have achieved results which find expression throughout the life cycle, culminating in the mounting old age group. It now becomes medicine's function to fathom the causes of degenerative processes, and to stay their progress as far as possible in order that longevity may be increased with added comfort and efficiency.

Medicine has made invaluable contributions toward the security of life through the

It is considered to be the duty of the medical profession to educate the public in all matters pertaining to the preservation of human life, and all efforts to prolong human life and add to the sum of human happiness will be most intelligently applied when a full knowledge of the agencies that cause disease are well understood.—Trans. M. A. Ala. 1892.

voluntary initiation of nearly all the fundamental principles upon which our public health organizations are based. What would life be worth without the service which has been provided by voluntary medicine?

3. Liberty: Without life and reasonable health, the word "liberty" would have little meaning. Yet how significant it is in the development of our American way of life. If it were not for liberty, the above mentioned achievements of American medicine would be of no purpose. Through this priceless attribute of our democratic government, voluntary medicine integrated with the voluntary response of a free people, has made the principles of liberty ever more desirable, and its blessings, when understood in the light of medicine, increasingly obvious. Rob medicine and the people of their liberty through any plan of regimented practice and the spirit which has made American medicine rise above that in any comparable nation will sicken under the lash of bureaucracy, pine for liberty and initiative, and die of inertia. If the guardians of liberty value the commendation of future generations, they had better deliver the people from the threat of socialized medicine.

4. The Pursuit of Happiness: Thank God, our forefathers had the wisdom to vouch-safe to us the privilege of the pursuit of hap-

piness, and not the annulling thought of the gift of happiness. Already, with unwonted paternalism, we have robbed a good section of our citizenry of the main sources of happiness by stultifying their spirit of self-expression and their desire for physical self-sufficiency. Paternalism, which requires no initiative and little or no physical effort, gnaws at the vitals of conscience and preys upon character and self-respect. It will require generations of individual initiative and industry to live down the influence of these wounds.

Medicine understands human nature too well to approve such a dangerous remedy as wholesale paternalism, which at best can be only palliative. Happiness depends upon the normal initiation of life with equality of opportunity as conditioned by environment, and the liberty of personal freedom in the development of hereditary endowments under available conditions. If the chief aim of life is happiness, the chief aim of voluntary medicine is to make happiness possible through the preservation and stabilization of life.

Considering the common weal, we plead that American medicine may be permitted to continue its evolutionary development to meet the shifting needs of a changing world as provided by the Declaration of Independence.

COMMITTEE CONTRIBUTIONS

J. P. Chapman, Chairman Selma, Alabama

The Cancer Control Program

For several years the Medical Association of the State of Alabama has been active in an educational program for cancer control by encouraging early diagnosis. The public has been taught the symptoms and indications of malignancy in its earliest forms, with the warning that a prompt recognition of the disease is the only hope of a cure. Considerable interest in the cancer program has been aroused in the state through the work of the Women's Field Army, representing The American Society for the Control of Cancer. We must now do more than recognize cancer: we must provide treat-

ment for those who are not able to secure it for themselves.

STATE APPROPRIATION

At the recent session of the State Legislature, an appropriation of \$30,000.00 for the first year, and \$50,000.00 the second year, was made for cancer control in Alabama. This is of tremendous importance, since it advances Alabama to tenth place among states doing cancer control work. This appropriation will enable the active educational program to continue, and also provides the means of treating indigent patients with cancer who may apply for state aid. Since this money will soon be available, it is urgent that the physicians of the state who are interested in cancer make their services available.

CANCER CLINICS

The Cancer Control Committee, appointed by the State Medical Association, and the State Board of Health, through whom the program will be administered, have adopted the policy of following the requirements of the American College of Surgeons for cancer or tumor clinics. In order to be recognized by the state agencies, as a clinic for diagnosis and treatment of cancer, it will be necessary for the group to comprise a radiologist, qualified to diagnose and treat cancer; a surgeon, available for treatment and aid in the decision of the best method of treatment in each case; a pathologist, either a member of the group or available for tissue study or biopsy; and other specialists where available. The basic equipment necessary will be x-ray facilities of 200 kv. or more, and 100 mgms. of radium.

This program does not anticipate stateowned or operated clinics but will depend upon the co-operation of individual hospitals or clinics, or private physicians who can group themselves to qualify for receiving state-aid patients. Such groups are needed in districts or certain divisions of the state, making a treatment center available and convenient to every county. An individual hospital, or a grouping of hospitals, or the pooling of personnel and equipment, may organize themselves into a tumor clinic. Each clinic recognized for state indigent patients will be given such publicity that it will be generally known as a cancer treatment center.

It is possible for members of the staff of

two or three hospitals to plan a tumor clinic among themselves, pooling their resources, and rotating the personnel so that certain days for diagnosis and treatment of cancer may be designated. The cancer program provides an unusual opportunity for full medical co-operation in each community.

THE BASIS FOR TREATMENT

The State Board of Health, in Montgomery, will administer the cancer control program. All applications for state aid must come through the county health officer, must give the details of the patient's lesion, and must be accompanied by a certificate of indigency from the County Department of Public Welfare. As the application is passed upon, the patient will be advised to report to the nearest cancer clinic for recommendation as to type of treatment, and then the application of the therapy indicated.

Arrangements will be made with cancer clinics as to the remuneration to be allowed for services rendered. The financial arrangements will be patterned after other states that have become well established in cancer control work.

There are only two cancer clinics in Alabama recognized by the American College of Surgeons but there are a number of groups of physicians or hospitals, already treating cancer with excellent results, who only need to organize themselves to qualify as cancer clinics. It is to these groups we are appealing especially at this time to help us inaugurate our state-wide program.

MEDICINE AND THE WAR

WARTIME NURSING IS DIFFERENT

It is utterly impossible to provide the necessary volume of wartime nursing service on a peacetime basis. Places where nursing is going on as usual must share with others. Individual nurses who have not made adjustments to wartime needs for their service should understand the necessity for their participation.

The National Nursing Council has pointed out that the value of any national plan must be judged by its usefulness at the local level, i.e., where nurses live and work—in the

country, in the villages, towns, and cities of the nation.

Wartime nursing is different! That inescapable fact must be generally accepted by nurses, by physicians, and by hospital administrators. Energy and motion now spent in resistance to change must be released for the attack on war-created needs.

Nurses have wrought many changes, but not enough, in the pattern of nursing service since Pearl Harbor. "We just do the best we can" is heard more frequently than "This is our plan." Generally speaking, educational programs have received more thought than service programs. Acceleration of the basic course in nursing is an outstanding example. State boards of nurse examiners have initiated others.

The principles of good nursing have not changed, but nurses are learning to concentrate on the essentials. In the analysis and administration of nursing service radical changes are being made. Tremendously valuable assistance in caring for patients is being secured from the Red Cross nurse's aides and other volunteers as well as from paid auxiliary workers.

Thus far nursing service has not been rationed; such rationing would be complicated by the differences in individual nurses and the degree of essentiality of needed services. The sharing of services is more difficult than the sharing of goods.

A critical shortage of nurses exists. Here are the facts:

Over 36,000 nurses are now with the armed forces and the Red Cross has accepted responsibility for the recruitment of an equal number by June 30, 1944. Our men are receiving skilled medical care of a high order as shown by the high percentage of recovery from injury. Skilled nursing is an important factor in such care. Then, too, the very presence of nurses near the bases of military operations has repeatedly been described as a potent force in maintaining morale.

There has been an unprecedented increase in the use of civilian hospitals. Hospitals gave fourteen and a quarter million more days of care in 1942 than in the preceding year and the trend still is definitely upward. This is in keeping with the rapid growth of the Blue Cross (group hospitalization) plans and the Children's Bureau hospitalization program for the care of the families of service men.

Nursing is essential to the nation's health. The National Nursing Inventories (of nursing resources) of 1941 and 1943, by the U.S. Public Health Service, offer a comparison of data for the two years.

The total number of nurses graduated in the two years is well in excess of the number withdrawn for military service; this fact is not apparent in the inventory. The returns are apparently incomplete. Active nurses who did not return their questionnaires apparently did not realize the pro-

Table I
NATIONAL NURSING INVENTORIES

	1941	1943
Total returns	289,286	259,174
Active		
Institutional	81,708	77,704
Public health		18,900
Industrial	5,512	11,220
Private duty	46,793	44,299
Other	21,276	18,476
Inactive but available for	,	,
nursing	25,252	38,746
	-, -	(of these
		23.576 are
	1	married and
		under 40)
Inactive, not available	90.979	49.829
In Nurse Corps of Army	00,010	201020
and Navy	6.371.0	ver 36,000
und muy	. 0,0110	(precise
		data not
		available)
		4.4.4.6.67

found importance of the information requested. This information is the basis for present planning and safeguarding the future.

The relatively small decrease in the number of institutional nurses is much less significant than the increased use of hospitals in creating the serious shortage of nurses. The increased number of nurses in industrial nursing is, of course, not surprising.

The large number of inactive nurses who reported themselves available is encouraging, but—available for what? Full-time? Part time? These nurses and others who are still "hidden" can make a valuable contribution to our nursing resources. Although it requires a little more planning, the service of two part-time nurses can equal that of one full-time one. Wartime nursing puts a tremendous burden on all the administrative nurses.

Here is the program of the new Nursing Division of the Procurement and Assignment Service. The Red Cross recruitment committees are pledged to recruit 36,000 nurses this year. The new division will (1) determine the availability for military service or essentiality for civilian service of all nurses eligible for military service and submit such determinations to the American Red Cross for use in procurement of nurses for the Armed Forces; (2) promote plans for maximum utilization of full-time nurses and those who are able to serve only part time; (3) develop and maintain a roster of all graduate registered nurses, and (4) develop and encourage sound methods of supplementing the work of nurses with non-professional personnel.

Through the War Manpower Commission, nursing will not only have the benefit of the experience of medicine in the procurement and assignment of physicians but means will be found to interpret wartime nursing to physicians and their cooperation secured in effecting desirable wartime adjustments.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

HEALTH CONTRIBUTIONS OF DR. JOSEPH LISTER AND FLORENCE NIGHTINGALE

The year 1854 is not regarded as a particularly important one in American or world affairs. It marked no turning point in the history of this or any other nation. History students are not required to remember it as they are required to remember 1776, 1812, 1861, 1914, and 1917. Indeed the average person would find it quite difficult, if not impossible, to name a single event of worldwide importance which occurred that year.

However, several important events did occur in 1854. Two of them directly affected your health, prosperity and general wellbeing.

As a result of those two important events in the progress of medicine, health workers might properly call 1854 a year of decision, because during that year two persons reached decisions which are still playing a part in your life and mine. They were Florence Nightingale and Joseph Lister. The former was an English gentlewoman. The latter was an English physician. Both represented the healing art at its best. Both have given every Englishman added reason to be proud of his country. Both have given us Americans occasion for pride in our membership in the great fraternity of English-speaking nations.

Disturbing reports were reaching England in 1854 from the battlefields of the Crimea, where England, Turkey, and France were engaged in mortal conflict with Russia. Not only was news of the ebb and flow of the battle lines disquieting. Even more disturbing was the news of those who had been wounded or had contracted diseases. The people of that brave little island were as willing then as they were in 1940 and since

to give up their sons, husbands and sweethearts and see them march away to war. They were even reconciled—insofar as one can be reconciled to such a thing—to having them give their lives if need be in order to bring victory nearer and make it more certain. But they were deeply hurt and resentful when they learned that thousands of England's bravest men, as well as some of the bravest men from the other warring countries, were sacrificing their lives unnecessarily. Many of the sick and wounded preferred to take their chances in the barracks and tents than in the disreputable institutions posing as places of restoration and recovery. Even the cloth needed for the making of bandages was not to be had. So the sick and injured had to get along without them. Instead of trained attendants there were utterly incompetent and completely unskilled male orderlies, who were about as likely to do the wrong thing as the right thing. In many hospitals indeed even this poor imitation of nursing care was lacking, and the sick and wounded had to wait on each other.

The London Times and many other newspapers began campaigns against such conditions. They protested that England's fighting men deserved better treatment than they were receiving and that their failure to receive it was a disgrace to the whole nation. They demanded that remedial measures be taken at once. Their attack upon those responsible for these conditions brought a wave of indignation, mingled with pity for the poor, neglected soldiers.

Fortunately for them and for the future of nursing, there was an official of the British government who determined to remedy these conditions. His name was Sidney Herbert. He began running over in his mind the names of the persons he knew who might be able to perform this great service

for England and England's fighting men. As he pondered this problem he became more and more convinced that this heavy responsibility should be entrusted to Florence Nightingale. So he wrote and asked her if she would undertake to organize a staff of efficient, intelligent and trained nurses to serve with army hospitals in the Crimea.

The choice was a happy one, as every student of public health and the history of nursing knows. When that call came, Florence Nightingale was thirty-four years of age. Although not wealthy, she was in comfortable circumstances, and she had enjoyed many advantages denied to persons in less favorable circumstances. Too she had won an unusual degree of personal popularity among her associates. Nevertheless she had been suffering for some time from a sense of futility and a growing consciousness that she was not making her life count for as much as it should. Her sympathy for the sick and injured had been particularly great, and, several years before Mr. Herbert's call came, she had reached the firm determination to become a nurse. It had immediately encountered the equally firm determination on the part of her parents that she would do nothing of the kind, since the nursing profession was then considered worthy of the talents of no one except women of the lowest type. How low it had sunk in popular esteem is shown in one of Charles Dickens' most famous portrayals—that of the notorious, drunken, disreputable Sairy Gamp.

But Florence Nightingale had persisted in her determination and had succeeded in carrying it through to realization, in spite of her family's objections. Scorning the lifted evebrows of her friends, she had set out resolutely to prepare herself for a life of service in a field where the need was especially great. Little had she realized during her period of training in Germany and France how much would be expected of her or how great a contribution she was destined to make to the profession which she had learned to love. Fame seemed far, far away just before she received Mr. Herbert's message. But, like Moses, she was ready for the call when it came.

Being ready, she was able to decide quickly what her response would be. Seven days after Mr. Herbert's message reached her she was on her way to the Crimea, accompanied

by 38 other nurses. In another two weeks she was hard at work in the great military hospital at Scutari, which had earned a particularly bad reputation for its treatment of the sick and wounded and its extremely high death rate. She immediately set to work applying the knowledge she had gained in her training and experience as a nurse and translating it into the saving of human lives.

The effect was almost electrical. Cleanliness succeeded filth. Efficient, intelligent care supplanted the haphazard nursing methods to which the sick and wounded had been accustomed. The men's morale improved wonderfully, and so did their chances of recovery. A near-miracle occurred, and the news of it was not long in reaching England and the whole world. In this country Henry Wadsworth Longfellow made it the subject of one of his most-loved poems, "The Lady with the Lamp."

When the Crimean War finally came to an end in 1856 and Florence Nightingale returned home, she was surprised to find that she had become a national heroine. Her fellow-countrymen expressed their gratitude by quickly raising a fund in excess of \$200,000 in American money. This they called the "Nightingale Fund" and asked her to spend it in such a way as to do for the people of England as a whole, insofar as she could, what she had done for those sick and wounded soldiers in the Crimea. Realizing that this aim could best be served by providing well trained, intelligent and morally clean nurses to go into the homes and hospitals, she used the fund to establish a highclass and modern school of nursing. From this seed grew other nursing schools in various parts of the country and later in all parts of the world. The Sairy Gamps of that day and their disreputable, drunken and immoral professional sisters disappeared from the wards and sick rooms, and their places were taken by neatly uniformed, well trained nurses not essentially different from the present-day Florence Nightingales who are so capably and loyally caring for the sick and wounded members of the armed forces and the civilians carrying on the struggle on the home front.

But Florence Nightingale's contribution to the cause of health did not end there. With another enthusiast, William Rathbone, she established the first visiting nurse service in history and thus became, in a sense, the founder of public health nursing. When her long and useful life finally came to an end at the age of 90, she could look back upon great strides in that important field of life-saving.

Joseph Lister was as deeply saddened by the tragic plight of England's civilian sick and wounded as Florence Nightingale was by the dead and dying soldiers in the Crimea. As he made the rounds of the hospital in Edinburgh, Scotland, where he was employed as a house surgeon, he saw how completely the work of the most skillful surgeon was undone by infection of wounds. In a very large percentage of cases—so large as to make him sick at heart—he saw such wounds quickly become diseased and inflamed and the injured succumb. As he saw these things in the year 1854 he reached a decision to do something, if possible, to reduce this wastage of human life.

During the next several years he kept asking himself why wounds, even so small as to consist of only slight breaks in the skin, became infected and why it was virtually a death sentence to tell a patient that anything more than a very minor operation was to be performed on him. Those questions continued to assail his mind after he was appointed professor of surgery at the University of Glasgow in 1860, and for about five years afterward, and he continued unable to answer them.

Then, in 1865, one of his friends and associates told him about the work of Louis Pasteur, the French scientist who had made some startling discoveries in the field of fermentation. Pasteur's experiments and what they had revealed promised to furnish answers to Lister's sleep-disturbing questions. He became particularly interested in the Pasteur discovery that fermentation, or decomposition, was due to the presence of living germs, which Pasteur could easily see and identify under the microscope. He also became especially interested in another Pasteur discovery, that these germs could be destroyed or rendered harmless by being treated with heat.

As Lister learned more and more about fermentation, the souring of milk, etc., another question appeared in his mind. If germs could cause these things to happen, why couldn't they cause infection of a wound? He decided that they not only

could but did. Then he set about finding a way to kill them and thus prevent them from turning a slight, apparently harmless injury into a fatal wound.

How to kill these germs without injuring the patient was a problem, but carbolic acid, which had been used to disinfect sewage, appeared to offer possibilities. August 12, 1865, was the day he decided upon as the time when he would find out, by actual use, how effective it was. On that day he operated for compound fracture, using instruments and dressings that had been treated with carbolic acid and having an attendant spray carbolic acid into the air directly above the incision. The experiment was a complete success, and another medical triumph had been achieved.

Lister's technique has been vastly improved since that August day more than three-quarters of a century ago, but the fundamental truth it revealed has not suffered in the least from the assaults of time. The principle Lister disclosed dominates the amphitheatres of the great hospitals of our day. Thanks to it, surgery has lost much of its terror and even more of its peril. It has enabled the surgeon to extend his healing art to practically every organ and area of the human body. It has made it possible for surgery to come into its own.

Those two—Florence Nightingale and Joseph Lister—have placed all humanity greatly in their debt. They have added immeasurably to human happiness, extended the life expectancy of millions of Americans, Englishmen and citizens of every other civilized country on earth, and helped to make the pursuit of happiness more than a futile search. All of us should do them honor.

To those of us who have had an opportunity of observing the reaction of children to air raids, it has become quite clear that not only have the children stood up to raids in a quite remarkable manner, but they undoubtedly have been an example to the grown-up people. I would go so far as to say that the children of my city have contributed a good deal to public morale by their high spirits and their refusal to be intimidated by raids. I remember hearing a rather charming story of two children in an air raid shelter in one of our worst raids, when a girl aged 8 was heard to say to her small brother aged 6: "If you don't keep quiet, you won't hear a bomb fall.—Parry, Am. J. Pub. Health, September '43.

BUREAU OF LABORATORIES Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

AUGUST 1943

Examinations for diphtheria bacilli and Vincent's	654
	004
Agglutination tests (typhoid, Brill's,	1.010
undulant fever)	1,019
Typhoid cultures (blood, feces and urine)	
Examinations for malaria	1,929
Examinations for intestinal parasites	1,977
Serologic tests for syphilis (blood and	
	42,609
Darkfield examinations	36
Examinations for gonococci	2,905
Examinations for tubercle bacilli	
Examinations for Negri bodies	,
(microscopic)	36
Water examinations (bacteriologic)	
Milk examinations	
Miscellaneous	300
Total	57,220

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

HOW MANY CASES OF CANCER HAVE YOU REPORTED?

The State Board of Health in the spring of 1939 declared cancer to be a notifiable disease and the medical profession was advised accordingly. Requests that all known cases of cancer be reported were sent to each physician with the further request that the site of the cancer be specified.

In the period June 1st to December 31st of 1939 there were 902 cases of cancer reported. In 1940 there were 1847; in 1941, 1822 cases and in 1942, 1937 cases. These have approximately equaled the deaths from cancer during this period and most of these reports were secured from death certificates. In other words, few cases of cancer have been reported to health departments prior to death. The prime objective in declaring cancer a reportable disease was to obtain some information as to its prevalence that could be used in outlining a program of control.

Today we have for the first time funds specifically appropriated for a cancer control program and plans are being laid to utilize this money to the best advantage. An accurate knowledge of where the cancer is in the state would be of considerable help

in the formation of these plans. In this connection, attention is directed to a companion article on the subject appearing under Committee Contributions in this issue of the Journal.

*PREVALENCE OF COMMUNICABLE DISEASES IN ALABAMA

1943

		Estimated Expectancy				
	July	August				
Typhoid	42	18	69			
Typhus	65	80	57			
Malaria	559	463	1047			
Smallpox	. 1	0	0			
Measles	232	51	29			
Scarlet fever		38	45			
Whooping cough		125	104			
Diphtheria		48	65			
Influenza	95	47	39			
Mumps	. 67	36	27			
Poliomyelitis	6	7	13			
Encephalitis	. 1	1	1			
Chickenpox	40	2	6			
Tetanus	. 4	4	4			
Tuberculosis	343	250	255			
Pellagra	. 7	8	22			
Meningitis	. 11	7	4			
Pneumonia	162	117	74			
Trachoma	0	0	0			
Tularemia	. 1	1	0			
Undulant fever	. 9	2	8			
Dengue	. 0	0	0			
Amebic dysentery	. 0	0	0			
Cancer	174	163	0			
Rabies—Human cases	. 0	0	0			
Positive animal heads	. 8	10				

*As reported by physicians and including deaths not reported as cases.

†The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

HIGH SCHOOL PHYSICAL FITNESS PROGRAM

J. E. Chrietzberg, D. D. S. Senior Public Health Dentist

A greater proportion of the men considered unfit for service in the armed forces were rejected because of accumulated dental defects that should have been corrected in pre- and elementary school years. The correction of such defects among the present high school students will be of valuable service to the individual as well as a contribution to the war effort. If these conditions and other physical handicaps are allowed to exist, many of our young men and women will retard the victory because of physical unfitness. If these young people are unfit for the armed forces, they may not be able to withstand the strain of work in a highly congested industrial defense area

where medical and dental care are almost impossible to get. It is in these areas that most of the young boys and girls will seek and secure work.

For this reason it is important that our boys and girls must receive proper physical preparation for the difficult task before them and it must be received prior to their induction in the service or industrial work. This will not only aid in the war effort, but will cause the country to have better fathers and mothers after the war. To help carry out this aim the American Dental Association and the United States Department of Education have organized a program known as the High School Victory Corps Physical Fitness Program. In the promotion of this program the dental profession has taken the initiative by appointing national and state, district, and local councils on dental health to promote and encourage dentistry for this age group. The health department in many states has been asked to assist in helping to promote this program. Alabama is attempting to answer this call by working with the Council on Dental Health and the State Department of Education to offer a program that will show results instead of announcing the need.

The Division of Dental Hygiene of the State Health Department in cooperation with the United States Public Health Service and under the direction of the State Health Officer has been able to secure federal funds to carry on an educational and corrective program for high school students. Plans have been made for a week of concentrated effort over the entire state. Working through the county health departments educational material, forms and records will be placed in the various high schools of the county. The use of radio broadcasts, articles in newspapers, service club programs, and decoration of show windows should be encouraged by local authorities such as county health officers, dentists, nurses and physicians. Dental posters will be placed in conspicuous places in the high schools. Teachers, dentists and persons from each county should see that their county carries on a program that will be a credit to Alabama.

Many of the dentists have agreed to give priority in appointment for the duration to students in this age group, and all of them have been asked to hold their appointment books open for at least two weeks prior to the week of November 14 through 20 for this group. Physicians can be of great help by encouraging all sixteen and seventeen year old boys and girls to visit their dentists for a dental inspection and needed corrections. Many people depend entirely on their physician to keep them advised relative to their health needs which include their dental needs as well. Looking at the program from this angle the physicians can be of definite assistance in making this program a successful one.

With a limited amount of funds the corrective program will be confined to the counties with clinics now functioning under the health department or where new clinics may be established for this purpose. By doing this we will be able to use the present equipment, forms, and records without any great expense. The clinicians will be local dentists and their compensation will be \$3.00 per hour for time spent in the clinics. Service will be confined to extractions; alloy, procelain and cement fillings; treatments and cleaning. Students eligible for this service must be designated by school teacher, principal, public welfare or other people competent to judge them as dentally indigent, and have the parents' or guardians' consent card which specifies that they are unable to pay for this service.

With these strong organizations supporting this plan and correlating the high school program with the well established elementary program, public health dentistry will become a very important phase of public health and play an important role in any physical fitness program in Alabama.

BUREAU OF SANITATION T. H. Milford, M. S. in S. E., Director

FOOD RATINGS

E. M. Yohn Senior Sanitarian

Section 7 of the Alabama State Board of Health Regulations Governing the Manufacture, Display and Service of Foods, Confections and Beverages prescribes surveys and ratings as follows:

"The State Health Officer shall cause to be made at regular intervals, not to exceed twelve

months, starting as soon as practicable after these regulations become effective, surveys and ratings of the effectiveness of the enforcement of these regulations by the several county health departments, and the said ratings shall be made known to county health officers and county boards of health, and shall also be published in the Annual Reports of the State Board of Health."

The object of this section is to provide for administrative purposes regular unbiased appraisals of the activities of, and results achieved by, county health departments in the application of the regulations. These appraisals are made only in counties having sanitation officers and which carry on a food establishment inspection program.

Ratings are made by the district inspectors. Where there are two or more food inspectors, the appraisal is made separately on each inspector. The procedure is for the district inspector to accompany the local inspector on inspections of all the places in his county or district, or as many of them as is possible in the time available for the survev. All establishments should be inspected in counties or districts having less than 30. Where the total number is greater than 30, a representative cross-section will give a reasonably true picture of average conditions. However, care must be taken to assure that the cross-section inspected is representative. If 50% of the establishments are to be inspected for the rating, then 50% of each type (cafes, soda fountains, markets, bakeries, etc.) should be inspected. These should be selected at random by the survey officer and should be scattered over the entire county or district.

The county sanitation officer and district inspector should each make independent score sheets on all places visited. These are compared and discussed when the survey is finished. There should be little discussion inside the establishment while making the inspections for a rating. Those made by the district inspector are left with the sanitation officer at completion of the rating for his study and guidance.

At or by the time of completing inspections for the rating, the district inspector should enter his inspections on a rating sheet. He should then check the food records and files and complete the data on the front page of the rating including tentative credits for the items concerning appraisal of the inspector. A great deal of this entry and record work can be done at odd times

in the office even before the inspections are completed. He should also outline, mentally at least, his recommendations for improvement of the program. Following this, he should hold a conference with the health and the sanitation officer to discuss general violations observed, weaknesses or deficiencies in the program as being carried on which need changing and improving, and his recommendations for these. When possible an agreement should be arrived at with the health officer regarding how, when and what changes in the program will be made to improve it. If the district inspector is properly prepared to make timely and practical suggestions substantiated by his findings on the rating, this is really the most important phase of the food survey. After this conference, the district inspector should then enter his recommendations and final credits of the sanitation officer's appraisal on the rating.

In order to compute credits on certain items of the appraisal portion of the rating, the district inspector should make notations on his inspection reports at the time of inspection regarding posting of permits and scores. These can be conveniently done by noting the letters "PP" on the inspection report for permit posted and "SP" for score posted. It may be of value also to enter the date and score of the last posted inspection report. Accurate compliance figures for certain items such as establishments inspected monthly, files complete, record of permits, and tickler chart kept current can be computed from the records. The items concerning method of conducting inspections, strictness of scoring, proper organization of inspection activities and education of food handling personnel necessarily are estimates of the district inspector made from observations during the rating and points brought out in the conference at its completion. One numerical approximation of the first two of these can be gotten by adding the percentage compliance with mandatory items and the average score together and dividing by two, on the theory that the condition of the establishments reflects the thoroughness and strictness of the sanitation officer. Obviously this will not always be true particularly in the case of a sanitation officer who has not been in the county long. For these items which must necessarily be estimated, it is better to enter the credit awarded in round figures such as 70, 80 or 90 so as not to give an impression of accuracy. There are two other items for which deductions are made from the total credits. The first, number of establishments operating without permits, can be secured from the records, provided the records are complete. The other, number of times the same item is marked on two successive inspections, can be computed from the records, but at least for the present period of difficulty in getting materials for corrections, might better be estimated from general observations of the sanitation officer's thoroughness rather than from exact mathematical calculations. All of the items for which a full credit of 100 is not given should be discussed in the conference held at completion of the rating, with the district inspector giving his reasons for the debits and recommendations for their improvement.

It is repeated that a frank thorough discussion of the county food program at completion of the rating is one of the most important parts of the survey. For this reason, the district inspector should reserve time for this and arrange with the health officer for it sufficiently far in advance that he can participate without too much interruption from callers or other duties. Figures such as those contained on a rating

are not easy to analyze and understand unless one devotes sufficient time to their analysis and meaning. At the completion of the rating, the district inspector is in position to illustrate specific needs with observed conditions in specific establishments. Such illustrations are far more enlightening and understandable to both the health officer and sanitation officer than is a percentage compliance figure on a rating which is not returned from the State Health Department usually until a week or more after completion of the rating. Rather frequently, special solutions need to be worked out to fit the conditions observed in that county. The district inspector is in excellent position to recommend solutions for these, having a fresh comprehensive picture of conditions and needs throughout the county. The health officer can also ask questions for any additional information needed before formulating the policies needed for further improvements. If both the district inspector and health officer exercise frankness and constructiveness in this discussion, better understanding of both the health department's limitations and the food establishment deficiencies should result. In addition, frequently, better solutions can be reached by joint discussion than could or would be arrived at independently by either participant.

BOOK ABSTRACTS AND REVIEWS

Hope Deferred. By Jeanette Seletz. Cloth. Price, \$2.75. Pp. 536. New York: The Macmillan Company, 1943.

There is the "feel" of hospitals about this book. It is full of the sounds of the long, windswept wards, the ether odors of the operating room, and the mechanical calls of the p. a. operators summoning men of medicine to their tasks of life-saving. From its pages speak the hopes and sorrows, the numbness and the pain of the sick and injured. "Hope Deferred" is a story of fractured skulls, crushed limbs and germ-infected bodies. But it is also the story of a strong, ambitious high-minded medical student who, with the passage of the years, becomes a heart-broken, disillusioned, and bitter practitioner of one of man's noblest arts.

It is, essentially, the story of Jone Brent, whose father was killed in the first World War and whose mother inspires in him a devotion that is pure worship. The period it covers is that from Jone's entrance in medical school until well into his residency as a staff physician in one of those

huge piles of brick and stone where men like Jone Brent carry on their daily miracles of lifesaving.

However, Miss Seletz could not tell the story of that segment of Jone Brent's life without also telling about his friends and his associates who were anything but friends. There is Carter Stokes, his first roommate, who has the unfortunate habit of making practically everybody dislike him intensely. There is Tommy Neville, a play-boy with a strong propensity for expensive imported automobiles, liquor and women (any kind) and only a lukewarm interest in medicine but who becomes one of the small circle of Jone's closest friends. There are Harry Benson, the stutterer who becomes bound to Jone with the strong cords of limitless devotion, and Buckley Brown, Jone's anatomy partner from the South, who becomes his firmest friend and helps him over the hard places, and many others.

This is an interesting, even an absorbing story. It is also a sad story, because Jone Brent is never

a happy person. He is constantly at war with himself, his frustrated ambitions, his poverty and threadbare clothes, and his associates in the medical school and hospital. And it ends on a particularly tragic note: the invasion of Poland.

The work is unusually rich in fine passages, as, for instance, the dean's address to the neophyte medical students nervously awaiting their first view of the bodies on which they will spend the next several months. Said he:

"You have chosen Medicine, gentlemen, but—has Medicine chosen you? 'Aye,' the great Bard would say, 'there is the rub.' Were we, the mentors of you fine young people entering upon your first great endeavor—which must hereafter be your polar star—to relax our vigilance through carelessness of misplaced confidence and permit those to remain who are unfitted by nature to remain, we should be guilty of a crime against them. Our aim here, gentlemen, is to turn out, not predestinated failures, but happy and useful men and women, a source of pride to those who cherish and love them, who struggle and sacrifice for them, and a blessing to all mankind. . .

"... You know your Scripture, gentlemen: 'For what shall it profit a man, if he shall gain the whole world, and lose his own soul?' And no practice in the field of human endeavor will give you such great opportunities to lose your soul as the practice of medicine; to retain your integrity or to huck it among the money-changers in the temple! No other work will show so quickly, and show abroad, the flaws in the soul of a man. Do not sell that soul, I charge you, for a mess of pottage."

"Hope Deferred" was written for the general book-reading public of course but should have a special appeal to men and women of medicine. Among those whose joys and heartbreaks are recounted they will find their own classmates, their own professors and their own fellow-practitioners. For Jone Brent, Buckley Brown and the others must have multiplied counterparts in the medical schools and hospitals that dot our land

John M. Gibson.

A Manual of Cardiology. By Thomas J. Drv, M. A., M. B., Ch. B., M. S. in Medicine. Assistant Professor of Medicine, University of Minnesota (Mayo Foundation); Consultant in Section of Cardiology, Mayo Clinic. Cloth. Price, \$3.00. Pp. 310, with 80 illustrations. Philadelphia and London: W. B. Saunders Company, 1943.

This little manual, published by Dr. T. J. Dry from the Mayo Clinic, is a rather simple, well organized synopsis of the diseases of the heart. In a concise logical order it deals with the normal heart, then the symptoms and then the physical findings.

Throughout it is presented in outline form. All theories, references and bibliographies are omitted. Each portion of the outline is in large bold type and then below that are listed the important facts.

The diagrams demonstrating various roentgenologic findings are very simple and accurate. The x-ray reproductions have been selected with a great deal of care to demonstrate fundamental pathologic processes. The electrocardiograms, however, it seems could have been definitely improved, both in their selection and reproduction. They are extremely diagrammatic.

The small volume and the low price justify the presence of this manual in the hands of all general practitioners. It should be especially useful to interns in hospitals where short reviews are necessary.

Norman Van Wezel.

The Principles and Practice of Obstetrics. By Joseph B. DeLee, A. M., M. D., Formerly Professor of Obstetrics and Gynecology, Emeritus, University of Chicago; Consultant in Obstetrics, Chicago Lying-In Hospital and Dispensary; Consultant in Obstetrics, Chicago Maternity Center; and J. P. Greenhill, B. S., M. D., Attending Obstetrician and Gynecologist, Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff, Chicago Lying-In Hospital; Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine. Eighth edition, entirely reset. Cloth. Price, \$10.00. Pp. 1,101 with 1,074 illustrations on 841 figures, 209 of them in colors. Philadelphia and London: W. B. Saunders Company, 1943.

The eighth edition comes 30 years after the first publication. It has been universally used as a leading textbook for medical students and practitioners and a reference book for the specialist. The book was published after the death of Dr. DeLee. The eighth edition was finished by Dr. J. P. Greenhill, who has maintained the high standards that have been set by Dr. DeLee The preface states that all alterations and corrections met with the approval of Dr. DeLee before his death.

Many new chapters have been added dealing with endocrinology, the use of vitamin K, the use of vitamins and minerals, the sulfonamides, etc.

Part I of this book deals with the anatomy and physiology of pregnancy, which chapters contain excellent diagrams. In the diagnosis of pregnancy the photographs of the areolae and nipples are beautifully colored reproductions. The physiology and mechanism of labor, including the various theories, are presented. There are numerous photomicrographs included. The chapter on endocrinology is very brief and could well have been elaborated.

Part II of the book deals with the pathology of pregnancy. The pictures that are included as reproductions from motion pictures are only fair. The details could have been improved by more careful selection or reproduction.

This section deals completely with the abnormalities of the fetus, of the mother, of the passages and of labor. The operative repair of tears is well illustrated; in fact, all of the operative procedures are demonstrated by superb sketches in excellent sequence.

The bibliography throughout is very much up to date, as demonstrated by the dates of publications. The index, which is very extensive, makes this an excellent reference book. Though containing over 1000 pages the volume is relatively thin, due to the lightweight paper.

DeLee and Greenhill's "Principles and Practice of Obstetrics" will continue to remain the leading textbook for students and an excellent reference book for the obstetrician.

Norman Van Wezel.

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OUR HEALTH AND THE FEDERAL TRADE COMMISSION

JAMES J. DURRETT, M. D. Washington, D. C.

The Federal Trade Commission was established early in 1915, pursuant to an Act of Congress of 1914. It is given wide authority to investigate business methods and practices and is directed to act in the interest of the public when a method of competition in commerce is found to be an unfair or deceptive act or practice. For the purpose of the Act, a false advertising claim for a food, drug, medical device or cosmetic is declared to be an unfair or deceptive act or practice.

The Commission's usual procedure under its authority to regulate unfair or deceptive practices in commerce is, after appropriate investigation and if the facts so warrant, to issue a complaint setting forth in detail the alleged unlawful practices. A hearing on the allegations of the complaint is then held and a case record is compiled of the sworn testimony of witnesses for the Commission and for the respondent. After study of this record, the Commission reaches a decision, either sustaining the allegations of the complaint, or dismissing the complaint, or closing the case without prejudice. If the allegations of the complaint are sustained, the Commission makes its "findings as to the facts" and states its conclusion that the law has been violated, and thereupon enters an order directing the respondent to cease and desist from such violation.

In the event the respondent wishes to contest the Commission order, he may apply

Read before the Association in annual session, Birmingham, April 21, 1943.

Director, Medical Advisory Division, Federal Trade Commission.

to a United States Circuit Court of Appeals for review of the order. This court has authority to approve, modify or set aside the Commission's order on the basis of the record of the case. However, the Court is not authorized to substitute its judgment for the Commission's judgment with respect to the findings as to the facts.

In those instances where the public interest will be properly served by such action, the case may be settled by a signed stipulation in which the respondent voluntarily agrees to cease and desist from the objectionable practices. This procedure saves both time and expense. Failure of the respondent to comply with the terms of a stipulation may result in procedure by complaint and hearing, after which an order of the Commission may be issued.

The Commission is authorized to apply for an injunction in a United States District Court whenever there is reason to believe that such action would be to the interest of the public. Such an injunction orders the suspension of all claims complained of until the complaint is dismissed by the Commission or set aside by the court of review, or the order of the Commission to cease and desist made thereon has become final. The injunction provisions have already been invoked in a number of cases involving dangerous drugs.

In cases where the food, drug, medical device or cosmetic may be injurious to health under the recommended conditions of use, or where there is intent to defraud or mislead, the Commission may seek conviction of the defendant for misdemeanor

in a United States District Court, which conviction would subject him to a possible fine of not more than \$5,000, or imprisonment for not more than six months, or both such fine and imprisonment.

The specific authority to proceed against false advertising of foods, drugs, medical devices and cosmetics was provided in the 1938 amendment to the original Federal Trade Commission Act. This amendment, known as the Wheeler-Lee Act, is of the greatest public health importance. That the Commission fully appreciates this is shown by the fact that more than half of the cases currently coming before the Commission present, in one way or another, a problem of health.

Billboard, handbill, mail, newspaper, magazine, radio, and display or demonstration advertising is a vast business which reaches and influences every one of us every day. The volume of advertising devoted to foods, drugs, medical devices and cosmetics is probably greater than for any other related group of commodities, and the annual bill for it may gross in excess of \$200,000,000. Some of this advertising is directly false, or is prepared and presented in a manner to create in the minds of the consumers a false impression.

By such false advertising, the sick are often led to undertake improper treatment, and the well to adopt useless or even detrimental measures in an effort to preserve and promote their health. The Congress, recognizing the great problem presented by misrepresentations in advertising, deemed it in the interest of the public to provide a method by which false and misleading advertising of medicines, foods, devices and cosmetics may be corrected.

An important part of all health work is to present problems of health to the public and to perform health work in such manner that the procedure and its purpose are understood by the public and its cooperation secured. This is the essence of health education. Such education informs of the proper measures to be taken to preserve and promote health and to regain health when illness has developed. Our schools are assisting in this program by devoting more and more attention to some health education problems. However, no such cooperative health education effort can succeed as long as the tremendous volume of false compet-

ing claims made in the advertising of foods, drugs, medical devices and cosmetics continues to issue forth from every advertising medium to confuse consumers when they read, look or listen.

The best possible evidence that we are progressing in our efforts to stop misrepresentations in advertising is the fact that a spokesman for the business interests involved said recently that if the pending drug and cigarette cases are won by the Government "A new era in advertising will dawn." The drug and cigaret cases referred to by this spokesman are substantial cases. Experts in all branches of the medical sciences clearly recognize that such actions of the Commission are in the interest of the public, and therefore they are willing to give of their time to assist us in compiling a straight-forward, factual record in each case on which a proper judgment may rest.

The advertising of a great many of these commodities with limited distribution, particularly drugs, is prepared by persons with no real scientific insight into the therapeutic merits or dangers of a preparation. Directly out of their ignorance and carelessness come many flagrantly false claims. However, this is by no means the case with those advertisers who attain national distribution of their products through nation-wide advertising. They employ the most capable writers in the advertising business, who prepare skillfully-worded advertising claims to promote the sale of a preparation. Often these claims are reviewed in advance of publication by expert attorneys. It is this carefully-designed, extensively-used advertising which presents the real problem confronting the Commission in its effort to protect the public. Such claims involve practically the entire range of knowledge developed by the medical sciences.

I am sure you can appreciate that it is impossible for the Commission to assemble and hold a scientific staff of advisers with sufficiently wide knowledge and experience to adequately advise on all of these problems. It is therefore absolutely necessary for the Commission to rely on the outstanding scientists of this country for information and advice about the scientific problems encountered in many of our procedures. We, of course, limit our requests for assistance to those scientific questions impossible for us to resolve by a study of the literature.

It is likewise necessary for the Commission to obtain assistance from the outstanding scientists of this country as expert witnesses to have them give evidence for the record on which the Commission's findings and order must be based.

Our very small group in the Medical Advisory Division of the Commission makes every effort to see that the task of those scientists who agree to assist us is made as light as possible by providing them with all our available pertinent information. Also, when a scientist agrees to serve as witness for the Commission, the representatives of the Commission arrange for a time and place of appearance most convenient to him and in every way attempt to conserve his time. Directly because of this assistance, the work of the Federal Trade Commission is made

more exact and therefore more effective. As time passes, the cumulative effect of this control over false advertising of foods, drugs, medical devices and cosmetics will insure that the public will be better safeguarded in the use of these commodities; the uses advocated for them will be more nearly their proper uses; general information with respect to health and disease will not be falsified in order to encourage the use of the particular preparation advertised; and proper nutrition will not be represented as practically unattainable through the proper selection of foods, in order to make a case for the use of a dietary supplement. There is reason to believe that in the not too distant future these results will be attained and a new day in advertising will

COCCIDIOIDOMYCOSIS

J. D. BUSH, M. D. Tuscaloosa, Alabama

Infection with Coccidioides immitis in the form of coccidioidal granuloma, a chronic progressive disease of skin, bones, lungs and meninges,¹ has been known to the medical profession since 1892 when the first case was reported by Posados² from Buenos Aires, Argentina as a new case of mycosis fungoides. The same case was reported and discussed by Wernicke³ in the same year. The second case was described in 1894 by Rixford⁴ of San Francisco as a case of malignant ulcer of the skin and later was published with another case by Rixford and Gilchrist⁵ in 1896. The organism was at

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From the Department of Pathology and Bacteriology, School of Medicine, University of Alabama.

1. Farness, O. J.: Coccidioidomycosis, J. A. M. A. 116: 1749-1752 (April 19) 1941.

2. Posados, A.: Un neuvo caso de micosis fungoidea con Psorospermias, An. D. circ. med. argent 15: 585, 1892.

3. Wernicke, R.: Ueber einen Protozoenbefund bei Mycosis fungoides (?), Centralbl. f. Bakt. 12: 859, 1892.

4. Rixford, E.: A case of Protozoic Dermatitis, Occident. M. Times 8: 704, 1894.

5. Rixford, E., and Gilchrist, T. C.: Two Cases of Protozoan (Coccidioidal) Infection of the Skin and other Organs, Johns Hopkins Hosp. Rep. 1: 209, 1896.

first thought to be a protozoan and was given the name Coccidioides by Stiles, a medical zoologist. In 1900 it was proved by Ophuls and Moffit to be a fungus and not a protozoan. 7,8

From 1892 until 1936 it was thought that infection with coccidioides appeared only as the granuloma. In 1936 Dickson showed that a benign form of acute primary infection with coccidioides does occur and is known in California as "Valley Fever." Dickson suggested the name coccidioidomycosis for all cases of infection with Coccidioides immitis further subdividing them into primary and secondary forms (coccidioidal granuloma). In his discussion of this paper Meyer termed Dickson's discov-

- 6. Moore, M.: Blastomycosis, Coccidioidal Granuloma and Paracoccidioidal Granuloma, Arch. Dermat. and Syph. 38: 163-190 (August) 1938.
- 7. Ophuls, W., and Moffit, H. C.: A New Pathogenic Mould (Formerly Described as a Protozoan, Coccidioides Immitis, Pyogenes), Philadelphia M. J. 5: 1471, 1900.

8. Ophuls, W.: Further Observations on a Pathogenic Mould Formerly Described as a Protozoan (Coccidioides Immitis, Coccidioides Pyogenes) I Fyner Med 6: 443 1905

genes), J. Exper. Med. 6: 443, 1905.
9. Dickson, E. C.: "Valley Fever" of San Joaquin Valley and Fungus Coccidioides, California and West. Med. 47: 151-155 (September) 1937.

ery as "the Renaissance period in the study of coccidioidomycosis." ¹⁰

Coccidioidal infection is no longer rarely seen and, although the disease is more frequently found in California, there are foci of infection in other Southwestern States. Farness¹ suggests that extensive cross country travel may establish foci in other parts of the United States and that in all cases of pulmonary infection not readily diagnosed physicians should consider coccidioidomycosis. It may be added that the establishment of army training centers in the Southwest has exposed a large group of young men to infection with Coccidioides immitis as reported from Camp Roberts, California¹¹ where 14 of 736 soldiers became infected during their first three months' residence.

CAUSATIVE ORGANISM

Coccidioides immitis passes through two phases in its life cycle, a vegetative and a parasitic phase. The vegetative phase takes place in soil, or on vegetation or artificial culture media. Growth of the organism in this phase is characterized by aerial hyphae which form a white, fluffy, mould-like appearance on artificial culture media. Reproduction in this phase is accomplished by chlamydospores, tiny bodies attached to the aerial hyphae. The vegetative phase has never been recorded as occurring in animal tissues. The parasitic phase occurs in the body tissues of an infected host.¹² Reproduction in this phase is by means of endosporulating spherules. The mature spherules average about 30 microns in diameter. The outer wall is a thick, hyaline, double-contoured capsule which may sometimes be covered by spines or prickles and can be best demonstrated by Masson's trichrome light green stain. Spherules develop in tissue from mycelia with or without chlamydospores although more readily from the former as determined by Chope¹³ following injection into the testicles of guinea pigs. The

10. Meyer, K. F. in discussion of Dickson, E. C.: "Valley Fever" of the San Joaquin Valley and Fungus Coccidioides, California and West. Med. 47: 155 (September) 1937.

11. Shelton, R. M.: A Survey of Coccidioidomycosis at Camp Roberts, California, J. A. M. A. 118: 1186-1190 (April 4) 1942.

12. Rosenberg, E. F.; Dockerty, M. B., and Meyerding, H. W.: Coccidioidal Arthritis, Arch. Int. Med. 69: 238-250, (February) 1942.

13. Cited by Dickson, E. C.: Coccidioides Infection, Arch. Int. Med. 59: 1029 (June) 1937.

endospores are liberated by rupture of the capsule which remains empty. Reproduction within the tissues is always by endosporulation, never by budding. Development of hyphae never takes place in tissue but if pus, containing spherules, is evacuated and planted on culture media or allowed to stand, mycelia develop from the spherules as evaginations of the protoplasm through the capsule.8,13,14 In evacuated pus Chope also observed instances in which filaments could be seen originating from the endospores before they had been liberated by rupture of the capsule.13 Ophuls15 pointed out that all spherules do not form hyphae. The fungus grows readily on practically all the ordinary culture media but best on Sabouraud's medium.16

EPIDEMIOLOGY

This disease is endemic in the San Joaquin Valley of California, other parts of Southern California, Arizona, Texas, probably New Mexico and Mexico, and the dry Chaco region of South America.17 Schenken and Palik¹⁸ report from 1913 to 1942 only 27 cases of coccidioidal infection in states other than California. In 12 the source of infection was probably in Texas, Arizona or New Mexico. Thus, there were only 5 cases with the source of infection traceable to states other than California, Texas, Arizona or New Mexico. Jacano¹⁹ isolated coccidioides from two Neapolitan silo workers who had never been outside of Italy. It is evident that the disease is endemic in dry, arid regions. The greatest incidence of cases is during the late autumn and early winter before the rains begin. During wet seasons the incidence is lower. 19,20 This seasonal incidence supports

^{14.} MacNeal, W. J., and Taylor, R. M.: Coccidioides Immitis and Coccidioidal Granuloma, J. M. Research 30: 261, 1914.

^{15.} Ophuls, W.: Coccidioidal Granuloma, J. A. M. A. 45: 1291 (October 28) 1905.

^{16.} Dickson, E. C.: Coccidioides Infection, Arch. Int. Med. 59: 1029 (June) 1937.

^{17.} Davis, Burt L. Jr.; Smith, Ruth Tangier, and Smith, Charles Edward: An Epidemic of Coccidioidal Infection (Coccidioidomycosis), J. A. M. A. 118: 1182-1186 (April 4) 1942.

^{18.} Schenken, John R., and Palik, Emil E.: Coccidioidomycosis in States other than California, with Report of a case in Louisiana, Arch. Path. 34: 484-494, 1942.

^{19.} Faber, Harold K.; Smith, Charles E., and Dickson, Ernest C.: Acute Coccidioidomycosis with Erythema Nodosum in Children, J. Pediat. 15: 163-171 (August) 1939.

the inhalation route with dust as the medium of dissemination for the chlamydospores of coccidioides.20 In 1929 Ophuls21 suggested that infection was due to the inhalation of chlamydospores mixed with dust. The fungus has been isolated from soil in the San Carlos region by Emmons,²² from soil near Delano by Stewart and Meyer,23 and from soil in the San Benito region by Smith.¹⁷ In the latter case the soil was implicated as the source of dust transmitting the infection to 7 of 14 persons exposed. The disease is not transmitted directly from host to host. Laboratory infections and the epidemic described by Davis, Smith and Smith¹⁷ establish the incubation period as 9-14 days.20 The primary form of coccidioidomycosis ("Valley Fever") occurs more frequently in white females, whereas coccidioidal granuloma occurs more frequently in dark-skinned males. Newcomers to the San Joaquin Valley show a predilection to infection in less than one year and eventually most of the inhabitants of the region undergo infection with coccidioides. Following infection a sensitivity to the filtrable products of the fungus becomes established from 2-17 days after the onset of symptoms. If erythema nodosum develops the sensitivity appears shortly thereafter. The sensitivity is usually demonstrated by a positive reaction following intradermal injection of 0.1 mg. of coccidioidin. Sensitivity has been recorded as persisting for 920 and 21¹⁹ years. Apparently the sensitivity may persist for life. The immunity established is permanent, and resistance to exogenous reinfection is substantiated.17 The age at which infection occurs may vary with the youngest case 15 months of age and the oldest 69 years of age. 19 Dickson has reported 3% under school age and 18% of school age, while Gifford has reported 26% under 20 years of age.19

PATHOGENESIS

Primary infection with coccidioides has been recorded as following injury to the skin by puncture of a cactus spine²⁴ and following an abrasion from picking walnuts.²⁵ As early as 1905 Ophuls⁸ suggested that a primary pulmonary infection occurred in coccidioidal granuloma probably due to inhalation of Coccidioides immitis. In 1929 he still held the opinion that inhalation of the chlamydospores was the mechanism of infection.²¹ There is now abundant proof that the portal of entry is the respiratory tract via dust.9,16,17,20 Cronkite and Lack produced primary pulmonary infection in 42% of 72 guinea pigs by exposing them to inhalation of the spores of Coccidioides immitis.26 Several instances of "Valley Fever" developing in persons who inhaled the chlamydospores grown on artificial media have been reported.

PATHOLOGICAL ANATOMY

In many features primary coccidioidomycosis resembles primary pulmonary tuberculosis, and Dickson²⁷ suggested that the primary lesion in coccidioidomycosis may be a Ghon tubercle. Since most patients with primary coccidioidomycosis recover, and since those who do not recover develop coccidioidal granuloma, we must rely on the infection in animals for the appearance of the primary lesions. Cronkite and Lack²⁶ present an excellent description of the lesions in guinea pigs following experimental infection. The lesions seen 8 to 21 days after inhalation of coccidioides "are slightly elevated, somewhat translucent, grayish nodules varying in diameter from about 2 mm. down to the limits of visibility with the unaided eye." The more advanced lesions were isolated or numerous scattered, fibrous, opaque nodules as large as 5 mm. in diameter. The tracheobronchial lymph nodes

^{20.} Smith, Charles Edward: Epidemiology of Acute Coccidioidomycosis with Erythema Nodosum ("San Joaquin" or "Valley Fever") Am. J. Pub. Health, 30: 600-611, 1940.

^{21.} Ophuls, W. in discussion of Fulford, D. S., and Larson, E. E.: Coccidioidal Granuloma, J. A. M. A. 93: 1049 (October 5) 1929.

^{22.} Emmons, C. W.: Isolation of Coccidioides from Soil and Rodents, Pub. Health Reports 57: 109-111 (January 23) 1942.

^{23.} Stewart, R. A., and Meyer, K. F.: Isolation of Coccidioides Immitis (Stiles) from the Soil, Proc. Soc. Exper. Biol. and Med. 29: 937-938 (May) 1932.

^{24.} Guy, W. H., and Jacob, J. M.: Granuloma Coccidioides, Arch. Dermat. and Syph. 16: 308 (September) 1927.

^{25.} Dickson, E. C.: Oidomycosis in California with Especial Reference to Coccidioidal Granuloma, Arch. Int. Med. 16: 1028 (December) 1915.

^{26.} Cronkite, Alfred E., and Lack, Arthur R.: Primary Pulmonary Coccidioidomycosis, Experimental Infection with Coccidioides Immitis, J. Exp. Med. 72: 167-174 (August) 1940.

^{27.} Dickson, E. C.: Primary Coccidioidomycosis; Initial Acute Infection which Results in Coccidioidal Granuloma, Am. Rev. Tuberc. 38: 722-729 (December) 1938.

were enlarged and in the surface made by cutting there were similar nodules. The microscopic appearance is that of a granuloma. "In the first 4 to 12 days there are areas of interstitial thickening characterized by the presence of mononuclear cells and often eosinophiles." As a result there is either generalized or focal thickening of the alveolar septae. In the sections of the gross nodules the normal architecture of lung is replaced by a structure of epithelioid cells and occasional multinucleated cells which may contain spherules. Older lesions show more fibrosis, central necrosis and spherules. The tracheobronchial lymph nodes show granulomatous lesions containing spherules. Ashburn and Emmons²⁸ have described the pulmonary lesions found in 9 of 105 rodents trapped in the desert around San Carlos, Arizona: "The lesions occurred most often in the lower lobes of the lungs and particularly along the anterior border and in that portion of the lung occupying the costophrenic angle. Most of them were superficially located, and many caused slight elevation of the overlying pleura." Most of the nodules measured 1 mm. in diameter. The nodules were formed of fusiform epithelioid cells, diffusely and irregularly arranged in the center but often with concentric peripheral arrangement. In a few the center was formed of adherent large mononuclear cells. Some showed central areas of caseation and one was partially calcified. A few lymphocytes were present in the outer walls of most nodules. In all of the nodules there were present a few to many fungus cells of varying size. Cox and Smith²⁹ have reported 4 cases of arrested coccidioidal granuloma in man. There was no characteristic position of the lesions in the lungs although all were near the periphery. The lesions consisted of large central masses of partially calcified caseous material with capsules of dense hyalinized connective tissue. Spherules were found in all, but cultured from only one fifteen years after they had first been demonstrated. Smilar arrested lesions were produced by injecting small numbers of spherules of a

virulent strain of the fungus coccidioides intravenously into white rats or guinea pigs. In almost all of these arrested experimental lesions, organisms were viable for periods up to $2\frac{1}{2}$ years. In more than 90% of the experimentally inoculated animals there was secondary infection of the mediastinal lymph nodes. Arrested lesions in the lung or lymph nodes may constitute potential sources of widespread infection and it is possible that more cases of arrested lesions may be found if a careful search is made in routine postmortem examinations. In a recent roentgenographic study Aronson, Saylor and Parr³⁰ suggest that the occurrence of calcified pulmonary nodules may be due to pulmonary infection with Coccidioides immitis.

SYMPTOMS

The symptomatology of coccidioides infection is protean. Following an incubation period of 9 to 14 days there is usually an influenza-like onset with aches and pains, especially backache and pleuritic pain. Sometimes headache and pain in the back of the neck are troublesome symptoms. In the epidemic reported by Davis, Smith and Smith¹⁷ tightness in the chest was a significant symptom. Cough is variable, being absent in some cases but in others it may be productive of sputum from which coccidioides may be isolated. Weakness is usually a prominent symptom and there may also be anorexia, nightsweats and fever. The fever is variable, being as high as 101 to 105 degrees. The temperature usually subsides gradually. In 2 to 5% of cases erythema nodosum and/or erythema multiforme appears in 2 to 18 days after the first appearance of the illness. There are thus two phases of the disease, the initial phase prior to the appearance of the eruption and the eruptive phase. The lesions are typically those of erythema nodosum but infrequently erythema multiforme appears. The erythema nodosum appears as fiery red, tender, painful nodules most numerous on the shins but also sometimes present on the thighs, buttocks, arms, scalp, thorax or neck. They do not fluctuate or suppurate. In 48 to 72 hours they become purple and then

^{28.} Ashburn, L. L., and Emmons, C. W.: Spontaneous Coccidioidal Granuloma in the Lungs of Wild Rodents, Arch. Path. 34: 791-800, 1942.

^{29.} Cox, Alvin J., and Smith, Charles E.: Arrested Pulmonary Coccidioidal Granuloma, Arch. Path. 27: 717-734, 1939.

^{30.} Aronson, Joseph D.; Saylor, Robert M., and Parr, Erma I.: Relationship of Coccidioidomycosis to Calcified Pulmonary Nodules, Arch. Path. 34: 31-48, 1942.

fade leaving a brownish pigmentation. The eruption lasts from 6 days to 3 weeks but the pigmented areas may remain for months. The association of erythema nodosum and coccidioides infection was first noted and published by Gifford³¹ and subsequently by Dickson.^{9,27,32,33} Thorner³⁴ has reported the association of erythema nodosum and coccidioides infection in 7 children from $3\frac{1}{2}$ to 13 years of age; and Faber, Smith and Dickson¹⁹ have reported 24 cases in children under 15 years of age. The skin lesions are often associated with conjunctivitis and acute arthritis. In the 24 cases reported by Faber, Smith and Dickson¹⁹ 9 developed arthritis in knees and ankles and one in the shoulders. The affected joints are tender to pressure, painful on motion, and in some cases are slightly swollen. Effusion has not been observed and suppuration is unknown. The affected joints clear with no residual damage.¹² In one case of primary coccidioidomycosis, without erythema nodosum or arthritis, pleural effusion developed and the organism was isolated from the pus. 19 The physical findings relative to the lungs are usually insignificant. There may be some slight loss of resonance and decreased breath sounds over the portion involved.

LABORATORY RESULTS

The urine shows only the usual findings in febrile diseases. The total leucocyte count may range from normal to 15,000, and eosinophilia is frequently present and may be as high as 13%. The sedimentation rate may be increased to 25 to 30 mm. in 1 hour (Cutler method). The spherules of coccidioides may be found in the sputum by direct examination and may be cultured best on Sabouraud's medium. If there is no expectoration, as in children, the organisms may be found in the stomach contents obtained by gastric aspiration. The colony on Sabouraud's medium appears as a fluffy

31. Gifford, M. A.: San Joaquin Fever, Annual Report Kern County Health Department for the Fiscal Year July 1, 1935 to June 30, 1936, pp. 22-23.

32. Dickson, E. C.: Coccidioidomycosis, J. A. M. A. 111: 1362-1364 (October) 1938.

33. Dickson, E. C., and Gifford, M. A.: Coccidioides Infection (Coccidioidomycosis), Arch. Int. Med. 62: 853-871 (November) 1938.

34. Thorner, Juliet E.: Erythema Nodosum in Childhood Associated with Infection by the Oidium Coccidioides, Arch. Pediat. 56: 628-638, 1938.

growth of mycelia. Positive proof of the identity and virulence of the fungus is obtained by injection into the testicles of guinea pigs. In 10 to 14 days the pus from the lesions show many sporulating and non-sporulating spherules of coccidioides³³ which can also be found in the tissue.

ROENTGENOGRAMS

Opportunities for the roentgenographic observation of the manifestations of the primary stages of pulmonary infection with coccidioides have not been numerous due to the fact that many patients are not very ill or are supposed to have influenza, a cold or pneumonia. The patient may not seek medical aid unless he has erythema nodosum, which is present in only about 2 to 5% of cases. Dickson,³² on the basis of laboratory infection, reports that roentgenograms of the chest during the acute attack show hilar shadows radiating from that region and densities distributed through the lung area. Very often a diagnosis of tuberculosis is made. Faber, Smith and Dickson, 19 in reporting the roentgenograms made in 6 children soon after the development of erythema nodosum, describe fuzzy densities at the lung roots and radiating into the lung fields with consolidation which is not lobar in type. They speak of the lesions as bronchopneumonia indistinguishable from "epituberculosis." Powers and Starks,35 in reporting the roentgenographic findings in 7 students, have divided the types of lesions into:

I. Severe—Multiple lesions from the start, progressive with new lesions over several weeks leading to cavities which form and close rapidly. Many lesions show central transparency at 3 to 4 weeks suggesting necrosis or caseation.

II. Milder—Solitary or a few fairly sharply contoured, spherical, opaque areas having a peripheral distribution usually opposite or posterior to the hilum, in the apex of lower lobe or lower part of upper lobe. Homogeneous and many distinctly nodular. Some shrinking noticeable in one week. Some lesions remain as solitary, homogeneous nodules about one-fourth original size. Others absorb leaving an inconspicuous parenchymal scar.

^{35.} Powers, R. A., and Starks, D. J.: Acute (Primary) Coccidioidomycosis; Roentgen Findings in a Group "Epidemic," Radiology 37: 448-453, 1941.

Winn and Johnson³⁶ report the findings in 40 cases with excellent illustrations. They find that a small nodular area of opacity may be all that is visible. There may be single or confluent areas of pneumonitis, usually in the bases. In many cases the lesions may be exudative, and clear rapidly, occasionally leaving a small amount of residual fibrosis. The foci of primary infection tend to appear like productive lesions, clear, and decrease in size slowly and incompletely, leaving nodular densities which may undergo calcification. In a large group of healthy children with positive reaction to 0.1 mgm. of coccidiodin and negative reaction to both old tuberculin and purified protein derivative the authors noted calcified pulmonary lesions. In 680 students at an eastern preparatory school for boys, 17, or 2.5%, reacted to intracutaneous injections of 1:100 dilution of coccidioidin and 12 of these did not react to intracutaneous injection of old tuberculin. Five of the 12 showed calcified pulmonary nodules on roentgenologic examination.37 As in primary tuberculous infection, calcification represents a focus of previous coccidioidal infection. Cavities may appear, are usually single, may close spontaneously but have a tendency to persist. The appearance of hilar or mediastinal lymphadenopathy is a bad sign preceding fatal dissemination.36 Pleural effusion may appear.

DIAGNOSIS

Following an incubation period of 9-14 days, an influenza-like onset, in an endemic region, with headache, backache, pain or tightness in the chest, anorexia, nightsweats, cough, weakness, arthritis and fever should suggest primary coccidioidomycosis. The presence of a normal or slightly increased leucocyte count, slightly increased sedimentation rate, eosinophilia, and the appearance of erythema nodosum and/or erythema multiforme, and the roentgenographic findings of bronchopneumonia make the diagnosis more likely. The identification of Coccidioides immitis from sputum or gas-

tric contents, the positive reaction to 0.1 mgm. of coccidioidin injected intracutaneously, and the presence of precipitins in the serum of the patient confirm the diagnosis. It appears that precipitins are present in the blood serum in high dilutions early in the disease but disappear as healing progresses. Complement is only fixed in low dilutions unless the disease becomes disseminated, when it may be fixed in high dilutions. A positive skin test is evidenced by the appearance of redness, induration and perhaps vesiculation, reaching a maximum in 48 hours. The area may measure several centimeters in diameter. The sensitivity to coccidioidin becomes established in 2 to 17 days after onset of illness, generally in 1 to 2 weeks, and may persist for many years. If erythema nodosum develops it appears shortly thereafter. This disease is most often confused with influenza, pneumonia, tuberculosis, measles, smallpox, and occasionally with poliomyelitis, typhoid fever and syphilis.17

PROGNOSIS

Recovery from primary coccidioidomycosis is practically invariable, requiring a few weeks to months. The presence of erythema nodosum is a good prognostic sign since dissemination rarely occurs in that event. Dickson and Gifford³³ reported that in 354 cases of primary coccidioidomycosis only one developed coccidioidal granuloma and died. The development of coccidioidal granuloma carries with it a mortality of about 50 %.

TREATMENT

There is no specific remedy and the treatment of the primary disease consists of rest in bed and the relief of pain when present. The salicylates usually suffice for the relief of the arthritic and pleuritic pain. The various sulfonamides, in both the primary and secondary (coccidioidal granuloma) forms of coccidioidomycosis, have been of no value. Penicillin has not proven of value in vitro.

PRELIMINARY REPORT OF A CASE

On April 28, 1942, I. S. B., a medical technician, prepared some cultural mounts of a number of pathogenic fungi. While preparing the mounts she wore a surgical mask over her mouth and nose. Among the fungi handled there was an old culture of *Coccidioides immitis*. The hyphae were long and adherent to the cotton plug. While pre-

^{36.} Winn, W. A., and Johnson, G. H.: Primary Coccidioidomycosis: A Roentgenographic Study of 40 Cases, Ann. Int. Med. 17: 407-422 (September) 1942.

^{37.} Aronson, Joseph D., and Gallagher, J. Roswell: Sensitivity to Coccidioidin Among Boys in an Eastern Preparatory School, Am. J. Pub. Health 32: 636-639, 1942.

MAY 1942	(13)	(14)	(16)	(17)	-	(18)	(22)	(25)	(27)	(28)	(29)	(31)
Hbg.			90%		1	86%	97%	89%	80%	80%	70%	80%
R. B. C.			4.95		i	4.82	4.38	4.52	4.55	6.19	4.41	4.22
W. B. C.	4.000	4,000	7,850	4.300	1	7.450	6.900	9.000	5,250 i	6,600	7.040	5.050
Polys.			70%		i	75%	68%	66%	_	73%	81%	61%
Lymphs.			30%			23%	30%	32%		22%	16%	35%
Eosin.	i		0			1%	1%	2%		0	1%	2%
L. Mon.			0			1%	1%	0%	_	2%	2%	1%
Baso.			0			0	0	0	_	0	0	0
Myeloc.			0			0	0	0		2%	0	0
Myelob,			0			0	0	0	_	1%	0	1%
Sed. R				20 mm. hr.	23	mm./hr.			24 mm./hr.	- 1		
Wass	ii			Negative			-	_	Negative	-	— 1	
Typhoid a,				Negative		_	_	_	Negative			_
Brill's a.	i			Negative				—	Negative	-	—	-
Undulant				Negative	1	_	_		Negative			-
Tularemia					1			_	Negative			

5-13-42
Blood smears on this date and on 5-14-42 showed many stippled cells (Wright's blood staih)

June 8, 1942 1:1000 dilution 0.8 cms. in 48 hours.

| Skin test with Coccidioidin | June 9, 1942 | September 11, 1943 |
1:100 dilution | 1:1000 dilution |
2x2 cms.—24 hrs. | 5.8x3.5—48 hrs. (cms) |
1.5x1.5 cms.—48 hours. | 3.2x2.5—48 hrs. (cms) |
Latter the inner area.

Hbg. 75% 80% 80% - 85% 726							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	June 1942	(8)	7/3/42	8/13/42	10/22/42	12 5	3/13/43
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Hbg.	75%	80%	80%	-	85%	72%
Polys. 55% 58% 56% — 56% 55 Lymphs. 33% 22% 37% — 38% 35 Eosin. 6% 9% 6% — 2% 4 L. Mon. 3% 1% 1% — 1% 6 Baso. 2% 0 0 — 3% 0 Myeloc. 0 0 0 — 0 0 0 Myelob. 0 0 0 — 0 19 mm./mr. 19 mm./mr. 19 mm./mr. 19 mm./mr. —<	R. B. C.	4.63	4.25		<u> </u>	4.97	4.41
Lymphs. 33% 22% 37% — 38% 35 Eosin. 6% 9% 6% — 2% 4 L. Mon. 3% 1 ½ 1% — 1 ½ 6 Baso. 2% 0 0 — 3% 0 Myeloc. 0 0 0 — 0 0 Myeloc. 0 0 0 — 0 0 Sed. Rate — 1 mm./hr. 21 mm./hr. 16 mm./hr. 17 mm./hr. 19 mm./ Wass. — — — — — — — Typhoid a. — — — — — — — — — Undulant — — — — — — — —	W. B. C.	3,600	5,150	5,850	_	4,600	4,000
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SYMPTOMS	April 28	May 13	May 14	May 15	May 16	May 17	May 20	June 1-14	June to Dec.
Exposure to infection Malaise Weakness Headache Backache Acute arthritis Chill Fever Pleuritic pain beneath sternum Cough Tightness in chest Erythema nodosum Nausea	+	+++	+++++++++++++++++++++++++++++++++++++++	+++++++++++++++++++++++++++++++++++++++	+++++++++++++++++++++++++++++++++++++++	+++++++++++++++++++++++++++++++++++++++	+++++++++++++++++++++++++++++++++++++++	+ + + + + occ. occ. + +	+ + + occ. + occ. occ.

paring the mount of coccidioides she dropped the cotton plug and when it struck the table top a cloud of dust rose. The mask covered her mouth and nose well. On May 13, 1942 the patient noticed malaise and weakness. May 14, 1942 there was severe headache and backache and the patient was confined to bed during the afternoon. Blood counts made on each day showed about 4,000 white blood cells with many stippled red cells, especially on May 13, 1942. On May 15 the patient attempted to continue her work but was forced to remain in bed because of weakness, headache, backache and pains in the knee and ankle joints. At 4:30 A. M. May 16 the patient experienced a chill which lasted for 15-20 minutes. This was followed by severe generalized headache, joint pains, backache, and temperature of 101 degrees. On admission to the hospital at 9:00 A. M. physical examination was essentially negative except for some tenderness on flexion of the neck and on manipulation of the ankle joints. The deep reflexes were hyperactive but there were no pathologic reflexes. On May 17 there was severe pain beneath the sternum along the course of the trachea and slight unproductive cough. An x-ray of the chest on May 18 showed a soft area of density in the right lower lobe posteriorly between the 7th and 9th ribs. More detailed physical examination of this region showed decreased resonance and diminished breath sounds. During this week the patient continued to notice pain in her chest beneath the sternum, pain in the knees and ankle joints, conjunctivitis, herpes labialis and fever up to 99 or 100 degrees in the P. M. The agglutination reactions for B. typhosus, B. abortus and Proteus X19 were negative. Blood cultures were negative. A repeat x-ray on May 22 showed some decrease in the original area of density and infiltration in the base of the right lower lobe. During the second week of the illness the patient noticed less headache but more severe pain in the chest beneath the sternum and along the right costal margin, and pain in the ankle, knee, shoulder, wrist and elbow joints. Hypodermic injections of pantopon grs. 1/3 were frequently required for relief. The temperature showed a daily rise from 99 degrees in the A. M. to 101-104 in the P. M. On May 20 two areas of erythema nodosum appeared on the right shin, three on the right knee and several areas of erythema multiforme were present in the skin over each sternomastoid muscle. An x-ray of the chest May 28 showed some decrease in the densities previously seen. In addition there was a new area of density about as large as a fifty cent piece near the right hilus. From May 28 to May 30 the patient received approximately 135 grs. of sulfadiazine. The temperature following administration of the sulfadiazine remained around 99 degrees in the A. M. rising to 100 or slightly higher in the P. M. An x-ray of the chest on May 31 showed some decrease in the size of the density near the right hilus. The patient was improved both subjectively and objectively. On that day she was removed from the hospital and during the third week of illness felt better except that in the late afternoon there was right costal pain, pain in knee and ankle joints, cough and elevation of temperature to 99 or 100 degrees.

On one occasion cough was productive. The sputum was thin and direct examination showed no fungi. Acid-fast stains were negative. Cultures on Sabouraud's medium showed a few colonies of staphylococci. Cultures on blood agar showed staphylococci, pneumococci and diptheroids.

Course subsequent to discharge from hospital: At home the patient was confined to bed but walked to the bathroom and ate her meals sitting up in a chair. She continued to notice severe pain in the chest and joint pains. Throughout the entire course of her illness she complained of a tightness in her chest. The chest pain was more severe on some occasions but was not as constant as the joint pains. The pains in the ankle, knee, shoulder, elbow and wrist joints were more severe during the afternoon and early evening. These pains were described as being intense and in the bones and joints. Sometimes there were shooting pains in the extremities, especially the upper, extending into the fingers. Pain in the back of the neck and headache were often experienced. Several areas of erythema nodosum appeared on the legs after discharge from the hospital, the earlier areas having faded and turned purple. On two occasions there was a sudden spasm of coughing with expectoration. Direct examination of the sputum showed a few large endosporulating spherules. Culture yielded a white, fluffy growth which resembled Coccidioides immitis. It was sent to Dr. C. E. Smith, Stanford University, School of Medicine. Dr. Smith found that the growth was not Coccidioides immitis and that it was not pathogenic for laboratory animals. It is possible that the organism might have been a contaminant.

On several occasions blood serum sent to the laboratory of Dr. C. E. Smith failed to show either precipitins or complement fixing bodies. It is possible that the serum was not collected early enough to demonstrate the precipitins.

The patient continued to show an elevation in temperature during these two weeks. After June 14 the patient discontinued taking her temperature. From this time until December the symptoms of weakness, nausea, easy fatigueability, joint pains and occasional chest pain, headache and backache persisted. The joint pains, while confined to the knees and ankles, are even now very annoying.

Note: I am indebted to Dr. E. M. Mason for his advice and encouragement in the presentation of this paper, to Dr. Wm. Anderson, Dr. Karl Kesmodel and Dr. J. A. Meadows for their interpretation of roentgenograms, and to Dr. C. E. Smith and staff for the performance and interpretation of the bacteriologic and serologic examinations.

NEXT ANNUAL MEETING OF THE ASSOCIATION MONTGOMERY, APRIL 18-20, 1944

INTERNAL DERANGEMENTS OF THE KNEE JOINT

J. D. SHERRILL, M. D. Birmingham, Alabama

The increasing incidence of athletic and industrial injuries, together with the toll taken by the vigorous military training programs, has focused attention upon the knee joint and its derangements as a major cause of disability. Frequently, patients suffer for long periods of time before adequate treatment is rendered yet today the orthopedic surgeon is becoming more able to diagnose and treat these conditions accurately. Patients are often advised against having knee surgery performed because of the fear of disability or ankylosis, yet it may be safely stated that, under rigid orthopedic technique, surgery of the knee offers hope for cure to patients with knee derangements. This is not meant to imply that surgery is the only treatment advocated, but where necessary we have found complications to be extremely few and ankylosis non-existent, unless intentionally performed.

Among internal derangements we include those pathologic conditions affecting the synovia, articular and semilunar cartilages, fat pad and cruciate ligaments. We do not include diseases of the lateral and medial ligaments, bursae, periosteum or periarticular structures. Hence, we shall discuss (1) lesions of the menisci, (2) loose bodies or joint mice, (3) lesions of the fat pad, (4) tears of the cruciate ligaments, (5) synovitis, (6) tumors, (7) fractures into the joint and (8) arthritis.

To be differentiated from the above are the extra articular derangements as (1) bursitis, (2) Osgood-Schlatter's disease, (3) Pellegrini-Stieda disease or calcification in the medial ligament, (4) injuries to the lateral and medial ligaments, (5) recurrent dislocations of the patella, and other less frequent conditions. These must be borne in mind when diagnosing a knee derangement, as the patient's complaint will be pain, limitation of motion, instability or swelling, without localizing the symptoms as intraor extra-articular. It is extremely important that the surgeon also localize the lesion of the proper compartment of the joint, internal or external, anterior or posterior.

Read before the Association in annual session, Birmingham, April 20, 1943.

Our series of knee arthrotomies for derangement numbers six-hundred forty-eight. Of these about 70 per cent were medial cartilage injuries; lateral cartilage injuries, 6 per cent; fractures into the knee joint, 8 per cent; arthritis and synovitis 5 per cent; joint mice, 6 per cent; tuberculosis of the joint, 2 per cent; and tumors of the knee joint, 3 per cent.

There are a few points of anatomical consideration to be borne in mind; namely, that the knee is a weight bearing joint normally extending to 180 degrees and flexing until the calf meets the thigh. It is a hinge joint but does permit a small amount of axial and sliding movements. The semilunar cartilages form an embankment to receive the femoral condyles and are attached peripherally to the joint capsule. These move forward when the knee is extended and backward when the knee is flexed. The medial meniscus is the larger of the two and much more frequently injured.

The cruciate ligaments extend from the femur to the tibia crossing in the intercondylar notch. The anterior cruciate becomes taut in extension and the posterior in flexion. The fat pad is a mass of fatty tissue covered by synovia and filling the space between the patella, tibia and femur. There is often a patellar synovial fold or ligamentum mucosum attaching the free margin of the fat pad to the intercondylar notch of the femur. This fat pad may hypertrophy and become pinched in extension of the joint or the edge may become sclerotic.

The synovial membrane lines the joint capsule and communicates with several bursal sacs. Since the synovia contains nerve endings, irritation of the membrane is translated into pain. All internal derangements are accompanied by a certain amount of synovitis and extravasation of fluid. If the irritating factor is not removed, then hypertrophic changes may result.

The articulating surfaces of the tibia, femur and patella are covered with hyaline cartilage which may undergo degenerative or arthritic changes, most frequently affecting the medial margin of the internal femoral condyle. Lastly, we must stress the

importance of the quadriceps muscle in maintaining the stability of the knee joint, for while it is true that the quadriceps tendon is not an integral part of the joint yet it is well known that no knee is stronger than its quadriceps.

In the differential diagnosis of lesions of the knee joint the history is most important. We try to elicit a history of trauma. The most common type is a twisting or wrenching injury with the knee partially flexed so commonly seen in football and baseball players. There may be locking of the joint usually when a torn cartilage or joint mouse is interposed between the tibial and femoral condyles preventing extension of the knee although a full range of flexion may be present. One may test for a spring reflex by comparing the resistance to extension in the injured and normal knee. There is a "springy" feel to the injured knee when a small tear of the cartilage, hypertrophied fat pad or excess callous on the tibial spine prevents complete extension. The patient may give a history of crepitation or grating on walking stairs, or stiffness on arising from a seat in the movie. Occasionally he will tell you that he can feel the loose body moving about in the joint. Can your patient foretell the weather by the feeling in his knee? Arthritics usually can do so. Lastly, one must determine the patient's occupation, recent or sudden weight changes and type of treatment to date.

In the physical examination do not overlook examining the patient's feet and hips. In acutely swollen and painful knees a proper evaluation can not be made and the patient should be cautioned regarding derangements that may later be determined. Look for atrophy of the thigh and the presence of a suprapatella concavity or hollow instead of the normal bulge. It usually points to a long standing derangement and prognosticates a slow recovery. Determine whether tenderness is present, particularly over the medial aspect of the tibial plateau, which is the usual site of pain in medial meniscus tears. Swelling must be diagnosed as due to fluid or thickening of the synovia and aspiration will often help in making the diagnosis. The degree of active motion and abnormal mobility are determined particularly in cartilage and cruciate ligament injuries.

The x-ray should include an open joint view or postero-anterior view with knee flexed. Separate views of the patella are necessary to bring out its articular surfaces. Pneumo-arthrograms are occasionally used, and we often will take films of both knees to obtain a good comparison. One must remember that a patient may have an excellently functioning knee joint in spite of an otherwise appearing x-ray film. Especially is this true of fractures into the joint.

Lesions of the semilunar cartilages include most commonly tears of the medial meniscus from complete detachments to small flap tears. Lacerations of the external menisci are less common but often there will be tears of both. Cysts are more commonly found in the external cartilage and contain a small amount of gelatinous material. Tumors are rare. Occasionally one sees a calcified meniscus on x-ray, but therapy should be directed only towards treatment of the symptoms. We ordinarily remove the cartilage through a small anteromedial or antero-lateral incision and do not employ a tourniquet routinely. The curved Freiberg or Lowe-Breck cartilage knife facilitates removal of the meniscus. Postoperatively it is important to begin early motion and muscle setting exercises to develop the quadriceps. The patient is allowed up as soon as he is free from pain.

Joint mice may arise from a chondritis of any of the articular surfaces, including the patella; chip fractures or arthritic spurs. Since they contain a small amount of calcified material their true size and number are not appreciated from the x-rays alone. It is necessary to "milk" the joint or compress the compartments to bring into view any loose bodies lying posteriorly. Here we often explore the joint digitally before closing. A small exposure suffices.

Lesions of the fat pad are usually co-existent with other derangements, especially torn cartilages. There may be a pure hypertrophy or sclerosis of the edges necessitating resection. The profuse bleeding accompanying the resection of the fat pad is prevented by employing a purse string suture prior to resecting. The ligamentum mucosum may be torn and getting pinched between the condyles, and occasionally there is a taut adherent fibrous band between the femurand fat pad.

Cruciate ligament tears are commonly seen at operation but, if the joint is stable, are best left alone. Where instability is present, repair is undertaken, employing a fascial strip to limit forward sliding of the tibia.

Synovitis and arthritis may be grouped together for discussion but each must be accurately diagnosed as to etiology. The intermittent hydro-arthroses or recurrent effusion may be due to an allergic or focal infectious process. Aspiration, culture and guinea pig inoculation tests are helpful. Conservative therapy, correction of obesity, allergy or focal infection plus the specific drugs as sulfonamides and sulphur may be tried. If conservative therapy fails, then a radical synovectomy is indicated in selected cases but not too promising of a permanent cure. The tuberculous knee is best treated by fusion. In gonorrheal and luetic arthritis specific conservative therapy is best. The pyogenic joint may require drainage and continuous irrigation to prevent destruction of the articular cartilages.

Tumors may arise from the synovia, bone, fat pad or capsular structures. We occasionally see a xanthoma, synovioma, sarcoma or giant cell tumor. Excision and x-ray therapy are employed. In a giant cell tumor reconstruction of the tibia or femur is often possible, but the local invasive growth of the giant cell tumor or xanthoma often necessitates amputation.

Derangements may result from fractures of the tibia or femur extending into the joint. Where the femur is fractured a loose body often results, together with tears of the lateral or cruciate ligaments. Tibial condylar fractures most commonly result in a depression of the tibial plateau necessary for weight bearing. The semilunar cartilages are often displaced with the fracture and cause locking. Often there is a piling up of bone or callous along the tibial spine preventing extension. If the weight-bearing plane is altered, then elevation of the depressed plateau may be necessary by inserting a wedge of bone under the condyle, or performing an osteotomy with realignment of the joint plane. Here it must be remembered that the disability and symptoms presenting should be the guide to surgery and not the x-ray or endeavor to obtain anatomic restoration. The disability is prolonged and weight bearing is not permitted for about six months.

We must not forget that even where surgery is the treatment of choice we must postoperatively continue our conservative therapy, especially physiotherapy; gradual exercises and stretching, weight reduction, shoe correction and support. The course of treatment should be outlined to the patient who alone should decide regarding surgery.

We do not routinely use preoperative sterile wrapping of the extremity nor do we routinely use sulfathiazol in our wounds. No tourniquet is used and hemostasis is obtained before the wound is closed, thereby lessening postoperative effusion. No attempt is made to apply compression dressings postoperatively. Motion and weight bearing is allowed as soon as the wound heals and comfort permits, except in fractures.

Good results are expected in all except the degenerative derangements, and even in these arthritic patients some improvement may be promised.

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DISCUSSION

Dr. W. C. Hannon (Mobile)—Dr. Sherrill is to be commended on the excellent presentation, in a very logical manner, of internal derangements of the knee joint. He has made differentiation between those derangements which are actually internal and those extra-articular. There are times when a differentiation between the intraand extra-articular lesions is very confusing and difficult to diagnose. The patient will always complain, however, of pain, some loss of function, and present a tendency to protect the knee in internal derangements. There may or may not be swelling from the accumulation of fluid in the joint. Location of lesions into their proper compartment of the joint is of material value due to the fact of the proper operative approach for relief of these conditions.

The brief resume' of the anatomy involved in the consideration of these conditions is quite good and briefly gives the function of the different component parts of the joint. Special attention to the function of the semilunar cartilages and the role of the cruciate ligaments is most important. So many times conditions of the fat pad have been completely overlooked and, after removal of cartilages, synovial fringes or loose bodies, the pain persisted which was due to changes in this padding. Naturally one would think that the fat pad involvement would be more pronounced in fat women but I have seen the condition equally advanced in very thin women.

The history of these cases assumes a very important role as often the diagnosis of cartilaginous injuries can be concurred in in conjunction with the clinical findings by the manner in which the injury was sustained. This is usually done with the foot fixed, the knee flexed, and an inward or outward rotation or twisting of the joint. Mobility of the cartilages prevents many damages to these menisci which ordinarily would occur. It is seen frequently in athletes and there are cases in which no history of injury has ever been given and these cases are those persons who present unusually mobile cartilages. In many instances the knee presents typical findings of a dislocation or lacerated cartilage. On opening the joint nothing can be found except an extreme mobile cartilage which, on removal, has relieved the symptoms completely. A definite differentiation should be made between actually torn cartilages and the hypermobile cartilage.

In traumatic knees in which fractures involving the tibial or femoral plate have occurred disabiling disabilities follow. Adequate and early reduction is indicated and in the tibial cartilaginous plate it is often necessary to elevate this plate by open operation in pushing the plate up and, if necessary, maintaining that position by bone block and, as the doctor has said, later by osteotomy.

Many operations for repair of the cruciate ligaments have been brought out and involve the transplantation of fascia lata which, when done properly, relieves the tendency for displacement of the knee on activity in these conditions. This phase of the work requires a mechanical knowledge of the knee in order that the transplants may be properly placed not to become too taut or too relaxed to secure good end results and will not be given any lengthy consideration in this discussion.

If an operation is necessary for treatment of internal derangements of the knee, a rather ample incision should be made in order that the knee joint may be explored thoroughly; and often in the acute injuries or operations a few weeks following injuries, laceration of the cruciates may be seen and occasionally can be repaired but, if this repair necessitates too much manipulation or intra-articular trauma, it is best that this not be done.

X-ray examination of these knees by pneumoarthrograms has not proven too satisfactory in my hands. There are times, however, where filling defects from loose bodies may be visualized quite clearly which could not otherwise be seen. Good antero-posterior, postero-anterior and lateral views, and occasionally oblique views, usually suffice to rule out any bony condition which may be present with the internal derangement of the tissues already discussed.

At times one of the most discouraging conditions to treat is that of synovitis which seems to be resistant to any type of treatment other than complete synovectomy. In doing this operation it is necessary that all the synovia possible be removed from the posterior compartment or the condition will surely recur. The advent of x-ray therapy in such cases following operation may be of material value and deserves some consideration.

The possibility of ankylosed joints, or stiffening of the joints following arthrotomy for the treatment of these conditions, does not carry any more hazard for the orthopedic surgeon than that of laparotomy for the general or abdominal surgeon. The first question every layman asks, when consulting orthopedists in reference to this approach, is whether or not the knee will be stiff and this only serves to spur the surgeon on to a more exacting technique to prevent just such accidents. The advent of the sulfonamides has added an additional safeguard against such conditions.

In closing, please allow me to thank Doctor Sherrill for presenting this paper which is of unusual interest and one of which so very much can be done to relieve a most disabling condition.

Carcinoma of the Prostate.—The possibility of cancer of the prostate should be considered immediately in all cases of frequency, nocturia, retention, or dysuria in men of cancer age. In the advanced cases diagnosis is simple and is based on the palpation of the carcinomatous gland. In these cases, as a rule, it is characteristically of third degree induration, sometimes even stony hard in consistency, fixed and nodular. When the disease is early, however, the diagnosis is more difficult. Fortunately, in the large per cent of cases, carcinoma arises in the posterior lobe, just beneath the capsule, where it is easily detected by the examining finger. Unless the examiner is very careful, a small isolated nodule of cancer may escape notice. Any firm nodule or area of induration, even if it involves only a very small portion of the prostate, should be suspected of being carcinomatous until proven otherwise. Such areas are occasionally due to inflammation or a prostatic calculus, but the latter may be ruled out by a roentgenogram of the prostatic area. All such cases should be given the benefit of a rectal examination by a competent urologist. In this clinic, in cases where the diagnosis is uncertain after rectal examination, the posterior surface of the prostate is exposed perineally, and a specimen removed from the suspected area. This specimen is subjected at once to frozen section and microscopic examination. If carcinoma is present and is considered limited to the prostate, a radical perineal prostatectomy after the method of Young is immediately performed. Aspiration biopsy of suspicious nodules in the prostate, as advocated by Barringer, has been used frequently here, but we consider the above method much more reliable and satisfactory.-Prince and Vest, South. M. J., Oct. '43.

FUNCTIONAL DISORDERS OF THE UPPER DIGESTIVE TRACT

H. M. SIMPSON, M. D., F. A. C. P. Florence, Alabama

The striking prevalence of disorders of the upper gastrointestinal tract is emphasized by the statement of British authorities that these conditions constitute the largest single type of disease in the Armed Forces. They have found that 50% of them are due to gastric or duodenal ulcer.1 This leaves a residue of approximately one-half the cases with disorders of the upper tract of non-organic origin in healthy young adults. Interpreting this incidence in terms of the civilian population, and bearing in mind the addition of the climacteric women (and may I say, also men), the aged and physically and psychically unfit, the unnoted and unreported symptoms that would be reported by civilian and not by military personnel, the occurrence of functional and neurogenic disorders should conform very closely to those reported by the essayist before this Association in 1933.2 After an analysis of 300 cases seen in private practice, I found that 72.5% of patients with gastrointestinal symptoms had important mental and nervous components, and in 50.8% the psychic factor was of prime importance. These facts emphasize the practical significance of this large and increasing group of individuals who are suffering from digestive symptoms of inorganic or functional origin. From observation of a large number of patients of this type, it is my considered opinion that they constitute a group whose military and industrial morbidity is of momentous concern, not only to the war effort but to the peace which must follow.

It has no doubt impressed many members of this section how stereotyped the symptoms of gastrointestinal disorders appear, as described by the patient, and seldom suggest the underlying pathology.

Gas: If I could find a market for all the gas my patients claim to generate, I am sure

we could produce it in commercial quantities. There is no shortage in our territory.

Heart burn, sour stomach and acid indigestion of radio fame, the various symptoms of pressure, fullness and smothering sensations: One hears so much of these complaints until one feels like declaring a bonus for a good clear-cut textbook case of hunger pain relieved by food and alkalies. The modern tendency is to focus our interest solely on organic, radiologically demonstrable disease of the digestive tract and to discard and disregard functional disease, assigning it to oblivion under the general scrap-heap term of nervous indigestion or nervousness. Most laymen and many physicians immediately transpose the symptoms of these individuals into the category of the imaginative. It is time, I think, that we should pause to realize that the discomfort of this group of patients is as much a reality as that of those with demonstrable organic changes and that, in the final analysis, the physiologic genesis of the symptoms of the two groups are iden-

While the main functions of the gastrointestinal tract pertain to secretion, motility and tonicity, all of which are vital and modify each other, the concept is convincingly authenticated that practically all of the painful sensations experienced along the digestive tube are due to changes in tension in the muscularis either due to distension or spasm. Whether these changes in tension are due to the pylorospasm of duodenal ulcer or the pylorospasm of a hypersensitive individual carrying more of a load than he is equipped to accommodate should not prejudice our sympathies or our efforts in either case. Not only the distress of the functional case is just as real, but often the cause of his symptoms is as definitely radiologically demonstrable. In my experience, the lower end of the esophagus and the cardiac sphinchter play a very important part in producing much of the discomfort complained of as heart burn, gas, substernal and epigastric pressure and smothering sensations. This observation is corroborated by the work of Chester M. Jones and associates

Read before the Association in annual session, Birmingham, April 20, 1943.

^{1.} Eustermann, G. E., in 1942 Year Book of General Medicine. Chicago: Year Book Publishers.

^{2.} Simpson, H. M.: Incidence of Mental and Nervous Manifestations in Internal Medicine, J. M. A. Alabama 3: 94-96, Sept. '33.

of Harvard,³ who, by distending the esophagus with balloons at different levels, were able to reproduce these various symptoms above enumerated and, by depositing at various times in the esophagus solutions of N/10 NaOH, N/10 HCl and ice water, were able to reproduce these symptoms, and demonstrate that they were dependent on the increased state of tension in the muscularis above the cardia and entirely independent of the chemical character of the gastric secretion. This fact has been noted by many of you, I am sure, who have found anacidity or subacidity in patients complaining of acid stomach.

In our clinic, we have been interested in studying the esophagus as a cause of digestive distress. In our x-ray department, careful fluoroscopy of the esophagus is a routine in all cases. We place the patient in the right lateral vertical position and instruct him to take one big swallow of the barium suspension. Normally, this should cascade into the stomach without delay. We frequently observe, however, various deviations from this normal, which departures we believe are significant. The barium column may be arrested at the cardia for a few seconds before the sphincter relaxes and the proximal portion may be backed up to the aortic arch; or the first part of the stream may pass through and then the cardiac sphincter may contract, holding a portion of the barium in the esophagus, and many times this may be seen to traverse the length of the esophagus up and down for several times, being carried upward by waves of reverse peristalsis. In these cases, we have many and varied complaints, such as heart burn and substernal or epigastric pressure. Aching at times simulates the pain of angina pectoris.

Many times, attention has been called to the distress caused by delayed emptying of the stomach. Recently, hypermotility and rapid emptying have been shown to be responsible for much postprandial nervousness, subjective complaints of gas, etc. Hamilton and Curtiss,⁴ at Ohio State University, studying gastric motility by the balloon and kymograph method, demonstrated the clinical appearance of gas pains during periods of hypermotility and increased intragastric tension and their disappearance on subsidence. Van Liere and Northrop, of West Virginia University,⁵ investigating a group of normals of various ages established an average normal emptying time of the carbohydrate meal as two hours. In many cases of upper abdominal distress, we see vigorous peristaltic waves rapidly emptying the stomach, often within an hour's time. Many of the patients complain of nervousness and sensations of pressure attributed to gas, and even nausea, due to the rapid discharge of gastric contents in the duodenum. A classical example of this is the gastroenterostomy or gastric resection with enterostomy. Many of these postoperative cases are most uncomfortable until they become adjusted to the altered physiology. The same condition is experienced in hypoacidity, in which the stomach empties very rapidly.

I believe that every individual complaining of long, continued digestive distress, whether suggestive of organic trouble or not, should have a careful medical, economic and social history taken, a searching physical examination made, accompanied by adequate laboratory procedures as suggested by the history and examination. A thorough x-ray investigation should be made of all components of the digestive system, with variations in tonicity and motility being noted, as well as any definite filling defect or deformity. In this way, only, can the absolute prerequisite for diagnosing functional diseases, i.e., carefully ruling out organic changes, be fulfilled. In this way, also, the etiologic factors responsible for the abnormal nerve and motor behavior may be adduced. These may be many and varied, such as emotional, psychic and sexual maladjustments, bad eating habits, both as to the quality and amount of food, poor mastication, insufficient vitamin intake, and toxemias—endogenous from sinuses, tonsils, teeth and other infections, and exogenous, the most important of which in my experience is tobacco.

The treatment of functional gastrointestinal patients is tedious and they are prone to experience many interruptions to their progress, but, on the whole, is eminently

^{3.} Jones, Chester M.: Digestive Tract Pain. New York: Macmillan, 1938.

^{4.} Hamilton, F. E., and Curtiss, G. E.: J. A. M. A. Dec. 27, '41.

^{5.} Van Liere, E. J., and Northrop, D. W.: Am. J. Physiol. Nov. '41.

profitable as far as reclaiming the usefulness of this group is concerned.

The most important single measure in treatment is the reassurance given the patient by a carefully conducted and comprehensive examination and the insight into his condition following an explanation of the findings and a demonstration of the spastic phenomena on the x-ray plate. This gives a tangible something for the individual to work against while before he has been dissatisfied with the diagnosis of nervousness. He has been convinced all along that something very tangible has been happening inside of him. He is often very grateful for the face-saving value of having something concrete the matter with him, while before he and his family have had the impression that he was the victim of an imaginative or hysterical episode. Many of the neurotic and psychogenic profit by a frank analysis of their problems.

Next in importance from the long term prospect is removal of any toxic factors, whether endogenous or exogenous, improving eating and living habits and balancing the nutritional program by proper diet.

The immediate, though temporary, relief of the symptoms by medication is of course of great moment also as it gives the patients confidence in the effectiveness of therapy and, incidentally, breaks up and desensitizes the conditioned reflex paths that perpetuate these processes. Among the most effective of these are sedatives, such as small doses of phenobarbital, or the newer antispasmodics such as syntropan and trasentin.

The effect of nitroglycerine as an antispasmodic, especially in the esophageal cases, I feel has been largely overlooked. A dosage of 1/100 to 1/200 grain dissolved under the tongue will frequently prove very comforting.

Correction of the secretory and chemical irregularities are very essential also. This is better done by the newer adsorbents, as aluminum hydroxide and magnesium trisilicate, though, at times, alkali therapy will have to be resorted to.

Correction of acid deficiencies by administration of dilute hydrochloric acid in adequate quantities has been very effective in many cases.

Gastric lavage will be productive of good

results in some cases of persistent hypersecretion and stasis.

SUMMARY

- 1. Spastic phenomena in the esophagus and hypermotility in the stomach are frequent causes of digestive symptoms.
- 2. Most of these processes can be demonstrated by the fluoroscope and x-ray plate.
- 3. They are correctable by proper therapy.

Chalazia—The first consideration in the treatment of chalazia has been surgical interference, although this is not necessarily the first procedure. Previous mention has been made that infection in the meibomian glands is the real beginning; therefore, prevention of this and treatment of the earliest stage in the formation of chalazia must come first. Chief attack medically should be aimed to maintain the patency of the lumen of the meibomian glands and increase general resistance of the patient to all infectious processes.

When the infection is too acute it must be treated conservatively by hot applications, a soothing emollient, and general administration of drugs in the sulfonamide group. Subsidence of acute infection calls for local manipulations, such as cleanly wiping the lid margins with mild solvent, or even soap and water, to remove scales and inspissated secretion, this cleaning the orifices of the meibomian glands on the lid margins. It is during this stage that direct pressure to evacuate the pent up contents through normal openings should be attempted. The procedure is as follows:

Local pressure is applied to limited lid areas by a smooth surfaced instrument held against the conjunctiva over the involved area after generously applying a topical anesthesia. Then counter pressure over the skin will force some of the contents out if the lumen is opened, or can be forced open. Desire to apply pressure to an entire lid will be effective and easily accomplished by allowing the patient to slightly close the lids while gently pulling apart the two lids with the balls of one's fingers. This will cause the lid margins to evert so that a sudden pushing of the lids against each other places the margins together in such a way that firm pressure may be applied by the fingers. This is especially applicable in cases in which topical anesthesia is not used. Additional therapy is carried on at home with gentle massage by the patient who is given instruction to massage down and up, depending on which lid-but always outward to prevent rubbing the eyeball or injuring the cornea.

Therapeutic agents for massage and relief of sticking together of the lids adds to comfort and probably aids in preventing recurrence.—Thomas, Texas State J. Med., October '43.

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USE AND ABUSE OF POSTERIOR PITUITARY EXTRACT IN OBSTETRICS

"This topic has been discussed so often that it hardly appears worth while to mention it again, but I am prompted to do so because of the gradually developing tendency to resort to the use of this preparation more freely in the conduct of labor. It was felt that the matter was of sufficient importance to justify a symposium on this subject at the 1940 session of the American Medical Association, and those participating in this discussion were very much in accord regarding the major points."

In these words King¹ opens his timely and interesting discussion of this subject. The New Orleans observer tells us that "a considerable controversy has arisen over the question as to the advisability of the use of posterior pituitary extract in the first stage of labor. All are agreed that there is no reason or justification for its employment if labor is proceeding normally. . . . On the other hand, if the pains are irregular, infrequent and weak, that is, if the picture is that of primary uterine inertia, it would appear logical to try to stimulate the uterus to better function. There are various methods

which might accomplish this, such as castor oil, a hot enema, a warm bath, quinine, calcium, or quinine and calcium combined. If these methods fail, the question of the use of posterior pituitary extracts arises. Personally, I prefer not to employ it and very rarely do so. This is the attitude of the various members of the visiting and resident staffs of the Charity Hospital. Perhaps we are leaning over backwards. From the American Medical Association symposium, and the discussion that followed, it would appear that the carefully controlled use of this preparation, in small doses, is a safe procedure in the treatment of inertia of the uterus." In the second stage King feels that, if pituitary extract must be used at all, it is safer "to employ only enough of the extract necessary to bring the presenting part well down, and then to complete the delivery by forceps or breech extraction." And he also says: "Let me repeat that there should be no obstruction, no disproportion, and no malposition when posterior pituitary extract is used in the second stage of labor, otherwise the results may be disastrous."

King's concluding paragraph follows:

"What, then, constitutes rational use, on the one hand, and abuse, on the other, of pituitary extract? The proper use consists of its very occasional employment, in small doses, in the first and second stages, as above outlined, when there is definite inertia and no obstruction or disproportion, with careful observation of its effect on uterine contractions and on the condition of mother and child. In the third stage, its use is best limited to its administration after the delivery of the placenta. The drug is improperly employed when it is used indiscriminately to hasten the labor for the doctor's convenience, when disproportion is overlooked, malposition, or obstruction, when doses greater than one or two minims are employed, and when there is neglect to observe its effect very carefully. Properly and carefully employed, under strict indications, it is useful and safe; improperly used, it may produce serious injury or death to the fetus, as well as severe maternal lacerations, and even rupture of the uterus with its high mortality. Let us not forget that it is a powerful uterine stimulant, and let us respect it accordingly."

When posterior pituitary extract was first

^{1.} King, E. L.: The Use and Abuse of Posterior Pituitary Extract in Obstetrics, New Orleans M. & S. J. 95: 450 (April) 1943.

introduced it was, not unnaturally, too highly acclaimed and far too freely employed. In time the deplorable consequence of its excessive use became evident and many physicians became much more conservative in this respect. But there are still those who apparently are inclined to use this powerful drug too often, at the wrong time, and in excessive amounts. All who engage in obstetrics would do well to read the excellent article by King and heed the sound advice it contains.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

WATER AND HEALTH

A famous German author of an earlier and happier period than the present one made the observation that he could forgive people for permitting other people to go hungry, because food costs money, but he could not forgive a person for letting anyone else suffer from a lack of good, wholesome fresh air, because it is free. He was particularly critical of landlords who rented buildings without an adequate number of windows in them.

What Jean Paul Richter said about fresh air he might have said about water. For, while water is not altogether free, as any home-owner or apartment renter knows, it is very inexpensive, and the cost is, or should be, no barrier to anyone's enjoying as much of it as one likes, whether for bathing to keep the body clean or for drinking.

The importance of water as a means of sustaining life and maintaining strength is often emphasized by experts in the field of health and nutrition. Indeed one expert has given it a position of importance second only to oxygen as a factor in maintaining the body at the proper level of health and efficiency. It is of course the basis of all fluids which are constantly flowing from one part of the body to another. Without it the blood would be useless and its functions would not be performed. As a part of the diet it takes equally high rank. For, although it is not regarded as a nutrient, it is, nevertheless, an important constituent of many foods.

If you were to ask the average person what percentage of his body consisted of water, he would probably either tell you he did not know or would make a guess pretty wide of the truth. The fact is that approximately 70 per cent—nearly three-fourths of the body weight is water. Since water is constantly being excreted by the lungs, kidneys and skin, it is essential that the water intake be maintained at a high level to avoid a deficiency. Fortunately, the conditions that make unusually heavy demands upon the body's water reserves—such as hot weather or unusual exertion—also increase thirst and cause more water to be consumed. Were this not true, man's bodily ailments, already numerous and troublesome, would be greatly increased, both in number and in their ability to add to human misery.

The percentage of water in the blood is considerably higher than that in the body as a whole. The blood plasma itself, which patriotic Americans have been furnishing for transfusions on the battlefields and in military hospitals all over the world, consists of 90 per cent water and only 10 per cent gases, food products, inorganic salts, waste products and other substances. When, for any reason, the water percentage drops markedly, circulation is impeded, the blood becomes more viscous, the corpuscles stick in the capillary tubes and fail to complete their normal circuit back to the heart, and blood pressure decreases. A condition similar to shock results.

Water is also helpful in keeping the body at the desired temperature. Unlike the bodies of certain of the lower animals, the human body does not normally change its temperature to conform to that of its immediate surroundings. If, for instance, you place a clinical thermometer in your mouth on a very cold morning, you should obtain the same reading that you would obtain on a hot day. Water is able to absorb heat readily without affecting its own temperature and in fact is said to be able to do this to a greater extent than almost any other sub-

stance. Many water sports enthusiasts have had personal experience with this characteristic, since it is not at all unusual to go swimming in one's favorite stream or pool on the first hot day of summer only to find that the water is as cold as it was several days before. It is easy to see the part this plays in maintaining body temperature unchanged.

You hardly need to be reminded that perspiration is a healthy process. It helps to remove excess water from the system and carries it off in steady streams when perspiration is profuse or in the form of vapor when it is only slight. When it leaves the body in the form of vapor it acts as a sort of cooling process, reducing the production of body heat and making for good health as well as greater comfort. Dr. James S. Mc-Lester, of the University of Alabama medical faculty, estimated in his authoritative volume Nutrition and Diet in Health and Disease that, under ordinary conditions, approximately one-fourth of the human body's heat is lost in this way.

Another function which water plays in the maintenance of health is as an aid to digestion. Indeed digestion, in the sense in which the word is generally understood, would be impossible without it, since the digestive process, generally speaking, consists of reactions of the proteins, starches, fats, sugars, etc. to the body's water content and the resulting breakdown of those food elements into substances which the multiplied millions of body cells need if they are to perform the tasks expected of them.

Water also aids digestion by stimulating gastric glands in the stomach to increased activity. At the same time, by diluting the food which the intestines have received from the stomach, it makes it easier for this food to be absorbed and in that way contributes to good health by preventing constipation and certain other illnesses.

But water also plays a part in digestion even before the food reaches the intestines. It does so in fact as soon as the food is eaten, for in the eating process it is mixed with saliva, which lacks only about one-half of one per cent of being entirely water. This starts the breakdown of carbohydrates. Just a few seconds after the food is swallowed it reaches the stomach, and there it comes into contact with stomach juices, 90 per cent of

which are water. These of course aid in the digestion of the meat and other protein substances. In the next stage of the digestive process, when the food enters what is known as the duodenum, it comes in contact with other fluids, the juices of the pancreas and liver, which, like the stomach juices, are nine-tenths water. By the time the food enters the large intestine it has lost practically all of its nutrient value through its contact with these juices, although some is retained.

It is estimated that the human body loses four and one-half pints of water every 24 hours through the three methods which have been mentioned—kidneys, skin and lungs. If normal health is to be maintained. this loss must be replaced. If, for any reason, a person is unable to obtain water for a considerable period, he begins to suffer acutely, and, if the lack is prolonged, he will die. Indeed the average person can live considerably longer without food than without water. One of many authorities who have emphasized the importance of water to the proper functioning of the body is Dr. Mary Swartz Rose, professor of nutrition at Columbia University. In her book, The Foundations of Nutrition, she estimated that, while a person could lose practically his entire stores of glycogen and fat and even half of his protein without seriously endangering his life, the loss of only 10 per cent of his body water would prove serious and the loss of 20 per cent would probably prove fatal. The contention that water is more vital to life and health than many foods was strengthened by an experiment in which young persons in normal health consumed a much smaller quantity of water than normal over a period of several days. The effects soon became apparent. They began suffering from headaches. They became nervous. They lost much of their taste for food. They became victims of digestive disturbances. They were unable to concentrate upon the tasks which they were trying to perform. Fortunately, however, these effects were only temporary. Shortly after they resumed the normal consumption of water, these conditions disappeared.

There is of course no hard and fast rule as to the amount of water a person should drink in order to maintain the proper balance and avoid depletion of the water reserves in his body. Since, if he is an average person doing an average amount of physical labor, he loses approximately four and one-half pints of water a day, it is obvious that the same amount should be consumed during an average 24-hour period. This does not mean, however, that it is necessary to drink four and one-half pints, or about nine glasses, of water every day. It must be remembered that we also increase our water intake whenever we eat, as from one-half to two-thirds, by weight, of solid foods consist of water. It is estimated that the average adult eats from two and onehalf to three pounds of solid food a day, and, if that estimate is correct, he would consume from one and one-half to two pints of water a day, even if he did not drink any at all. This average Alabamian would thus fall short by about two pints a day of maintaining his water balance at the proper level. This deficiency should of course be made up by drinking water itself, about five or six glasses a day.

Perhaps you are not an average person from the water-consumption point of view, and, in that case, you may need to visit the water cooler or faucet oftener. If you are especially fond of dry foods or use an unusually large amount of salt on your food, you will probably need more than five or six glasses of water a day. On the other hand, if you pass up dry foods and eat unusual amounts of fruits and vegetables, which include an unusually high percentage of water, you do not need to drink as much as you otherwise would. The amount of exercise you take determines the amount of water you lose through the lungs and skin and, resultantly, the amount that must be replaced. Two well known scientists have reported upon a football player who weighed 14 pounds less after an hour and ten minutes of strenuous exercise than before and estimated that thirteen and three-quarter pounds of this loss consisted of water. Naturally, that particular football player would need to drink more water than one of the sports enthusiasts who merely sat in the grandstand and cheered him on.

You have probably heard many times the old gag about the New Yorker, or the Montgomerian or the resident of some other community who knows much less about his own city than a person who has made a short visit there. The answer to this apparent paradox is that the person who spends all

his life, or a good portion of it, in a place realizes that he has plenty of time to see its historic buildings and other interesting spots and makes no particular effort to do so. Therefore, he doesn't. The visitor, on the other hand, realizes that he must see these places immediately or not at all and so gets busy and sees them.

As far as drinking water is concerned, many people are very much like that New Yorker or Montgomerian. If consuming a proper amount required a considerable effort or expense, they probably would make that special effort or go to that expense. But water is all but free and usually readily available. So, since they can drink whenever they wish, they often fail to drink it as often as they should. Thus its very cheapness and convenience may conceivably prevent many people from drinking as much of it as they need.

Those who do not particularly care for water as such have added to their fluid intake by enjoying their favorite soft drinks, which have the added advantage of containing sugar and other food products. There is no doubt that many would not consume as much water as they should if they did not supplement their water-drinking in this way.

Whether you drink water in its natural state or as one of the chief ingredients of a soft drink, be certain, for your health's sake, that you drink plenty of it. And remember there is no danger of your drinking too much water.

BUREAU OF LABORATORIES Samuel R. Damon, Ph. D., Director SPECIMENS EXAMINED

SEPTEMBER 1943	
Examination for diphtheria bacilli	
and Vincent's	886
Agglutination tests (typhoid, Brill's,	
undulant fever)	. 770
Typhoid cultures (blood, feces and urine)	_ 761
Examinations for malaria	. 1,346
Examinations for intestinal parasites	1,694
Serologic tests for syphilis (blood and	
spinal fluid)	40,274
Darkfield examinations	34
Examinations for gonococci	3,047
Examinations for tubercle bacilli	1,322
Examinations for Negri bodies	
(microscopic)	29
Water examinations (bacteriologic)	881
Milk examinations	1, 000
Miscellaneous	369

Totals 53,109

E E *

BUREAU OF PREVENTABLE DISEASES

D. G. Gill, M. D., Director

PREVALENCE OF COMMUNICABLE DIS-EASES IN ALABAMA

1943

	Aug.	Sept.	Scpt
Typhoid	18	11	60
Typhoid Typhus Maialia	80	73	42
Majaria	463	358	1249
Smallpox	0	0	0
Measies	51	34	28
Scarlet fever	38	78	74
Whooping cough	125	45	77
Diphtheria	48	54	129
Influenza	47	65	76
Mumps		15	23
Poliomyelitis	. 7	3	10
Encephalitis	1	0	3
Chickenpox	$\hat{2}$	1	7
Tetanus	4	5	5
Tuberculosis		130	229
Pellagra	8	4	21
Meningitis	7	18	_3
Pneumonia	117	127	76
Trachoma	0	0	0
Tularemia	1	0	0
Undulant fever	2	8	6
Dengue	0	0	0
Amedic dysentery	0	150	0
Cancer	163	150	0
Rabies—Human cases	0	0	U
Positive animal heads	10	9	

As reported by physicians and including deaths not

reported as cases.

*E. E—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

A PLAN FOR AMPLIFYING THE PUBLIC HEALTH NURSE'S MOTHER TEACHING PROGRAM

Contributed by

Wm. D. Lyon, M. D., Pediatric Consultant

1. When inspection of a newborn infant shows inflamed areas in the mouth or even a single impetigo-like spot anywhere on the body, a physician should see the child at once as such lesions may become rapidly and even dangerously worse.

When an infant gains but slowly and takes a long time for nursing either on the bottle or the breast, this may be due to a tonguetie of clinical degree, or, in the case of the bottle, to insufficiently large holes in the nipple. In clinical tongue-tie the tip of the tongue may scarcely be protruded beyond the gums and the tip of the tongue may be drawn down a bit. If this condition is seen, the child should be taken to a physician for examination and treatment.

2. If the navel is still wet by the tenth day, the mother should be taught to gently

swab it outward morning and evening with full strength hydrogen peroxide and then with full strength spirit of camphor. Should the navel continue wet after a week of treatment, granulation tissue is present and should be removed by a physician and the swabbing continued until there is complete healing.

As long as the navel is discharging it may be the portal of entry for infections that may be serious.

3. In teaching mothers as to the treatment of umbilical hernia, she should be sharply informed that once it has been reduced and dressing applied it should never again be allowed to protrude.

If the dressing is allowed to fall off, the hernia is likely to protrude and thus all advantage lost. If the plaster is pulled away, the skin is apt to become sore after a few dressings and then the area must be kept uncovered until healed, and again all advantage is likely to be lost.

In hot weather the dressing should be changed each week and in cooler weather each ten or twelve days.

The mother should have on hand a rubber solvent of the carbon tetrachloride type, such as green label Energine, alcohol, cotton, and inch wide non-waterproof adhesive plaster.

When the plaster is to be removed it should be thoroughly wet with the rubber solvent and then gently washed away until the skin is clean. Now the navel is thoroughly cleansed with alcohol and the hernia should be carefully kept in place. Three strips of plaster about 8 inches long should be ready, and after the pellet of absorbent cotton (about the size of a lima bean) and the vertical folds of skin are in place the first strip of plaster is carefully applied transversally between the supporting fingers which are held exactly an inch apart.

Finally the extra strips are applied partly overlapping the first strip (about 1/3 inch) above and below. This permits accurate fitting to the abdominal contour.

4. If any lumps or protrusions are noted in the groins, the child should be seen by a physician as promptly as possible because any indicated treatment must be carried out under his supervision. No child should be permitted to enter school wearing a truss that is needed to retain an active hernia. The risk is too great.

5. In the matter of phimosis, if there is a long narrow prepuce which cannot be retracted at all, he should promptly see a physician for indicated treatment.

If through the treatment of a physician or the efforts of the mother the prepuce may be fully retracted, the mother should be shown that after cleansing and oiling, the prepuce ought not be grasped in the fingers and pulled forward, but rather the penis grasped near the body and the foreskin gently pushed over the glans. This aids in avoiding traumatism and infection.

6. The erythema and dermatitis frequently seen about the thighs, buttocks, and adjacent parts and commonly called diaper rash may have a variety of causes, but in all cases the baby needs more water. A fine rash may be caused by orange or tomato juice and if this is suspected the fruit may be omitted for a week. If it is a causative factor, the rash will improve or disappear, in which case ascorbic acid may be substituted.

In all cases much good may come through omitting diapers for most of the day and exposing the area to sunshine several times daily.

When there is considerable soreness two diapers may be used and applied skirtwise using two pins above the pubis and one above the knees, thus making no contact between the legs.

Before the long nap and at bedtime the entire area may be thickly smeared with yellow vaseline as a protective coating. After the usual washing and rinsing the diapers should be rinsed and hand-wrung from a solution of a heaping tablespoon of borax in a gallon of water.

If possible, it is often of advantage to reduce the amount of fat in the diet.

7. As to constipation mothers should be taught never to use a soap stick or glycerin suppository to aid in straining out a solid passage as this may cause a fissure or an injury to the hemorrhoids which are ofter present.

It is much better to use an enema of a pint or more of warm normal saline from a fountain syringe hung no more than eighteen inches above the buttocks, which acts without irritation and does soften the fecal mass

Proper solutions properly given are not habit forming and constitute a potent measure of training to regularity. If the infant is held across the lap with the buttocks projecting over the bathtub or other large tub, an assistant is not needed and much unpleasantness is avoided.

It is seldem wise to allow an infant to carry a passage into a second day.

8. Mothers must be impressed with the fact that every diarrhea may become serious and never allowed to continue for even a day without every effort being made to improve the condition.

The milk may always be greatly reduced. using evaporated milk if possible and replacing water in the formula with flour gruel, using one level tablespoon of flour to each eight ounces of water required.

The flour should first be made into a smooth paste with part of the water, then mixed with the remainder and in the inner part of a double cooker placed directly over heat, stirred until it boils and then boiled for forty minutes in the double cooker.

Boiled water is added to replace evaporation loss, the gruel cooled and added to the milk. If improvement is steady, the milk may be gradually increased to normal, but the gruel should be continued for several weeks longer.

If improvement is not at once apparent, the child must be taken to a physician for observation and treatment.

The foundation for a lifelong digestive impairment may be brought about through neglected diarrheas in infancy even though the attack is survived.

9. Without refrigeration evaporated milk may be safely used for twenty-four hours after opening, especially if six penny and twenty nails are used in place of a can opener. Milk should be poured for a single feeding at one time and fly contamination avoided by placing a cup or bowl over the can, which should be kept in the coolest place available.

10. In so many of our one-room homes the small infant is frequently hampered by the attentions of his very young brothers and sisters whose enthusiasm is so much in excess of their judgment. However, this may be almost entirely avoided by keeping him in a corral about four feet square and thirty inches high. Any man can easily make this from lumber scraps. Four corner posts with connecting strips at top and bottom and vertical strips all around with inch wide spacing and hinges at one corner and some

simple fastening at the open corner makes it very simple. Thus, at little expense the infant really has a room to himself and the mother may safely leave him with the other little ones

Through allowing our nurses to demonstrate all that they may teach, I feel that their efficiency will be increased.

BUREAU OF SANITATION T. M. Milford, M. S. in S. E., Director CORROSION CONTROL

Contributed by
C. W. White
Associate Sanitary and Public Health Engineer

Corrosion, broadly speaking, is the chemical action of certain external agents which cause deterioration of metal. When corrosion is in mind, one thinks of red or rusty water, staining of porcelain fixtures, staining of clothes from laundry, and leaking services. Serious as these are, far more so may be the economic losses due to the reduction in the carrying capacity of pipes in water systems. The increased friction and the decreased area of cross-section due to tuberculation or other forms of rusting may reduce the normal expected flow over half in a number of years. Incrustation may therefore be more important than loss of metal.

The active agent in corrosion of metal is oxygen, but this element would be almost powerless by itself were it not for the action of what is known as acid or hydrogen ions. Corrosion may vary greatly over the surface of the metal. The action is frequently localized in the form of tubercles, as, for example, where a protective coating inside of a pipe is broken and the metal is exposed in spots. The dislodgment of rust coatings or tubercles causes the well-known "red water" trouble. These compounds often contain organic and mineral matter which accumulates on the corroded surface of the attacked metal. There are some corrosive well waters which form no coatings of rust inside the pipe and the waters flow clear at the tap. Usually these contain iron in solution and there is a streak of red rust on the tub or bowl where the dissolved iron oxidizes and collects.

Corrosion may be confused with well waters that contain iron in solution as it comes out of the ground. However, some of these iron-bearing waters may also be corrosive. When these waters are exposed to the air or when the iron is oxidized, the water will become yellowish to red in color and will stain porcelain fixtures and clothes the same as corrosive water that has come in contact with metal pipes and tanks. Since these well waters contain iron before they are removed from the ground the methods employed for corrosion correction or control do not necessarily apply. If iron appears in objectionable quantities in a domestic water supply, consideration should be given to its removal by aeration, coagulation, sedimentation, and filtration before the water is delivered to the distribution system. In some cases, aeration alone may remove sufficient iron to prevent the water from being objectionable.

In acid waters containing oxygen (most of them do) it is advisable to reduce the acidity or increase the alkalinity by the addition of an alkali. Fro this purpose two chemicals have been used extensively in public water supplies in Alabama. These chemicals are carbonate of soda (soda ash— Na_2CO_3) and hydrated lime (Ca(OH)₂).

When soda ash is used, little or no insoluble protective coating is formed on the iron. Nevertheless, it does not increase the hardness of the water as does lime. Lime, when added to certain water in sufficient amounts, produces a coating of calcium carbonate (chalk) on the surface of pipes and metals, and is an effective corrosion control agent. Hardness of the water is increased when lime is added, sometimes to an objectionable degree.

There is a chemical (sodium hexametaphosphate) that is sold under the trade name of Calgon which may inhibit corrosion because of its power to form a thin protective film on the surface of metal. Experiences with this chemical in Alabama have been very limited. However, a few supplies are now using it as a corrective treatment.

The Committee on Water Conditioning Methods to Inhibit Corrosion, American Water Works Association, has made a special investigation of the use of sodium hexametaphosphate. The investigation was requested by the Association because of the increasing use of this chemical and because

there is a considerable difference of opinion as to the merits of the treatment. The committee's conclusions follow:

1. In ferrous metal piping systems, the use of metaphosphates will nearly always eliminate, or at least minimize, the outward manifestations of corrosion, particularly red water and tuberculation. This conclusion is derived largely from operating experience and is substantiated in laboratory studies.

2. Conflicting evidence as yet forbids a definite statement as to whether metaphosphate does or does not prevent the actual corrosion of ferrous metals, using the term corrosion in the sense of removal of metal from the surface. The members of the committee are not in agreement on

this question.

3. The effectiveness of metaphosphate in preventing attack on non-ferrous metals seems to depend on the metal, and on the particular aspect of corrosion studied. Prevention of precipitates of metal salts and of stains on fixtures seems to be well authenticated. The prevention of penetration and pitting by metaphosphate is at present in doubt in the case of copper, brass and zinc. The action of metaphosphate on lead is to reduce the amount of lead taken up by waters of pH value lower than 7.0, and possibly to increase it slightly in waters of pH value greater than 8.0.

- 4. Disturbances in water systems produced by the addition of metaphosphate, such as sloughing of scale deposits on pipe and increased bacterial counts, do not seem to be sufficiently common to cause concern, but abrupt changes in pH value should be avoided when metaphosphate treatment is introduced.
- 5. Metaphosphate has been used to advantage in conjunction with other chemicals commonly used for corrosion control, such as lime, soda ash or caustic soda. Of these, lime is the one generally used. In such combined treatments, the metaphosphate provides an additional benefit by preventing deposition of calcium or magnesium salts in the system, particularly in hot water coils or piping.
- 6. On the basis of chemical cost only, metaphosphate treatment appears more expensive than most other forms of anti-corrosion treatment; however, when lime treatment and metaphosphate treatment are compared, attention must be given to the cost of the additional soap used by the consumer if lime treatment is adopted. Other benefits secured by metaphosphate treatment, such as the prevention of red water and tuberculation, must also be considered.
- 7. In connection with the action of metaphosphate in preventing red water, it is noted that this chemical may be used to prevent the precipitation of iron and manganese in water.

Cathodic protection or an electrolytic treatment has been designed to reverse the ordinary electrolytic action of water when corrosion takes place and has been used in elevated tanks and standpipes. To do this, one electrode is placed in the water and one

is attached to the metal reservoir. The current is passed from the positive electrode in the water to the negative electrode on the metal, with the result that instead of the corrosive (acid) ion reaching the metal the non-corrosive (alkaline) ion takes its place. This method has proved to be efficient when applicable and its cost of operation is low.

There are other chemicals or chemical compounds on the market for sale that may be useful as boiler compounds and prevent corrosion. However, until they are thoroughly investigated as to their merits and are proved to be unharmful for human consumption they should not be used in domestic or drinking waters. The State Department of Health's recommendation for, or approval of, any water treatment method is withheld until the method is proved to be applicable and unharmful.

Atypical Pneumonia—The onset is most frequently insidious, but occasionally it may be abrupt. For one to six days or longer the patients may have symptoms of a mild respiratory infection, with nasal discharge, headache, mild general malaise, non-productive cough and occasionally sore throat, loss of appetite and vague gastro-intestinal symptoms, although these latter three complaints are not usually prominent. Like the clinical course, the onset may vary both among sporadic cases and in different oubreaks. In some epidemics respiratory symptoms preceding or accompanying the disease have been rare or non-existent.

General malaise, fever, headache, often frontal and peri-orbital, cough and chilliness are prominent features. The headache and general malaise vary in intensity, frequently persist throughout the febrile period, and show exacerbation with each spread of the pulmonary lesions.

The temperature ranges from 99 F. to 105 F. In the milder cases it is likely to be between 100 and 103 F., while in the more severe cases, higher levels are the rule. The duration of the fever is variable and, while it may persist for six to eight weeks or longer, the average duration is five to ten days, ending by lysis. The temperature may be sustained throughout the febrile period, but more commonly it is of the septic or swinging type and is often biphasic. In the more severe cases one sees several temperature elevations of 104 to 105 F. in a twenty-four hour period, each preceded by chilliness and followed by drenching sweats. In a few of our cases extensive pulmonary lesions have been demonstrated by x-ray in patients whose temperature was never above 100 F.—Berryhill et al., North Carolina M. J., Oct.

BOOK ABSTRACTS AND REVIEWS

Synopsis of Tropical Medicine. By Sir Philip Manson-Bahr, C. M. G., D. S. O., M. D., F. R. C. P., Senior Physician to the Hospital for Tropical Diseases, London, the Albert Dock and Tilbury Hospitals; and Consulting Physician to the Colonial Office and Crown Agents for the Colonies. Cloth. Price, S2.50. Pp. 224. Baltimore: Williams and Wilkins Co., 1943.

Sir Philip Manson-Bahr, a well known author among medical men concerned with tropical medicine, has devoted his latest efforts to the publication of a book which might be of value to the military doctor now in all of the tropical outposts of the world. The book is small in size but ample in content. It is sparingly illustrated, however—perhaps too much so since the diagnosis of many tropical diseases depends on the recognition of one of the various parasitological etiological agents. There are five plates in black and white illustrating the malaria parasites, two of intermediary hosts and two of the intestinal protozoa. The material is divided into sixteen chapters which include the protozoal diseases, spirochetal and rickettsial diseases, bacterial, virus and fungus diseases, nutritional and climatic diseases, and the various animal and vegetable poisons. The book is concluded by lengthy chapters on the metazoal diseases. There are almost as many unfamiliar diseases mentioned in the book as there are of the well known commoner disorders, each of course being peculiar to its own part of the world. The book should be valuable for the purpose it was intended and should come in handy when the boys return from the tropical countries afflicted with the strange diseases contracted during our modern movements of warfare.

Philip K. Burwell.

Eat What You Want! A Sensible Guide to Good Health Through Good Eating. By W. W. Baucr, M. D., Director, Bureau of Health Education, American Medical Associate; Associate Editor, Hygeia; and Florence Marvyne Bauer. With an Introduction by Morris Fishbein, Editor, Journal of the American Medical Association. Cloth. Price, \$2.00. Pp. 263. New York: Greenberg, Publisher, Inc.

This book is written by one who is familiar with health conditions in all sections of the country. It is authoritative, and in a readable form, easily understood by the layman who is interested in food but has had no scientific training in nutrition.

The chapter on *Living* to *Eat* shows in a very concise manner how a person who wishes to eat wisely for the sake of his health may also eat well for the sake of his pleasure.

Facing the complex problem of food and nutrition as it exists today, it is imperative that the general public be armed with the type of information Dr. and Mrs. Bauer have included in this "sensible guide to good health through good eating."

Amanda Tucker.

The Mind of the Injured Man. Joseph L. Fetterman, M. A., M. D., Assistant Clinical Professor of Nervous Diseases, Western Reserve University School of Medicine, Cleveland, Ohio. Cloth. Price, §4.00. Pp. 238. Chicago: Industrial Medicine Book Company, 1943.

This small volume deals briefly with an enormous amount of material which is of considerable importance to the industrial physician.

It deals briefly and simply with the anatomic and structural changes which occur in physical and chemical injuries to the brain, spinal cord, and cranial nerves as well as the mental aberrations involved in the neuroses and psychoses. The volume quotes freely from the author's rich experience with industrial and compensation cases, demonstrating cases of neurosis, malingering and psychopathic personalities as well as the less fortunate individuals with the symptoms of the psychoses.

The book is written in very simple language for lay leaders but gives a comprehensive bibliography for any who are interested to pursue the topics further.

Edwin H. Place.

A Manual of Clinical Therapeutics. By Windsor C. Cutting, M. D., Associate Professor of Therapeutics, Stanford University School of Medicine, San Francisco, California. Cloth. Price, \$4.00. Pp. 609. Philadelphia and London: W. B. Saunders Company, 1943.

This manual is intended to be a compact, practical guide for students, house officers and practitioners. It is a very orderly synopsis of treatment. It is extremely brief. It deals in orderly fashion with general care and then with specific infections. It omits a great deal of the controversial subjects and includes only a sketchy review of clinical findings. It is up to date in the matter of treatment; for example, it includes Sister Kenny's newer ideas for the treatment of anterior poliomyelitis. However, it omits some of the acceptable ideas such as the use of adrenal cortex in the pernicious vomiting of pregnancy and more recently the use of pyroxidine.

A glaring error which is probably typographical is noted on page 217, in which the dose of aminophyllin is given correctly in the metric system but its transposition to the apothecary system is in error. Several such errors are noted throughout the text. These are probably the errors of the proof readers.

The section marked Appendix 3, which covers symptoms and treatment of poisoning, is very complete and is in reality an integral part of the entire book.

Appendix 8, which covers clinical physiologic data, represents an excellent compilation of the normal findings of blood, cerebrospinal fluid, EKG's, gastric contents, urine, etc. The laboratory procedures of some of the important blood determinations are included.

In general, Cutting's Manual of Clinical Therapeutics is a handy volume to have on the shelf. However, a perusal through it once will probably

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suffice. Its chief use will probably be for house officers whose time is very limited. For the general practitioner this book will serve purely as an indicator. It will be necessary to consult more elaborate texts for more detailed therapy. Its low cost is an enticing factor.

Norman Van Wezel.

The Compleat Pediatrician. By Wilburt C. Davison, M. A., D. Sc., M. D., Professor of Pediatrics, Duke University School of Medicine, and Pediatrician, Duke Hospital. Formerly Acting Pediatrician in Charge, The Johns Hopkins Hospital. Cloth. Price, \$3.75. Pages 256 not including index. Durham, N. C.: Duke University Press, 1943.

This is one of the best and most complete reference books in the field of pediatric literature. It is very concise and does not give one a bulk of material to read through. The section on drugs and prescriptions is one of the best, with all the drugs used in pediatrics listed and the dosage for children given, including the newest in chemotheraphy. It has practically all the useful pediatric information condensed into less than three hundred (300) pages. It can be recommended as an excellent reference book to all physicians who have any children in their practice.

J. Sam Smith.

Personal and Community Health. By C. E. Turner, A. M., Sc. D., Dr. P. H., Professor of Public Health in the Massachusetts Institute of Technology; Formerly Associate Professor of Hygiene in the Tufts College Medical and Dental Schools; Sometime Member of the Administrative Board in the School of Public Health of Harvard University and the Massachusetts Institute of Technology. Third edition. Cloth. Price, \$3.50. Pp. 585. St. Louis: The C. V. Mosby Company, 1943.

It has been said that whatever additional years are added to the span of human life must be largely the result of one's own efforts; that if the span is increased to the scriptural allotment, ten of the years will be added by an individual's own study of himself. The hygiene of maternity and infancy has made its lasting contribution to increased length of life; and, of late, geriatrics has been claiming attention. It would seem then that it is the middle ground that should be cultivated, and apparently it is to this view that Dr. Turner holds in offering Personal and Community Health to college-level groups.

First published in 1925, the volume has reached its eighth edition, constantly improved to include the newer things while retaining fundamental principles in which there cannot be great variableness. Though somewhat brief in scope it is more than a handbook. In reality it is a text which "reflects the continued teaching experience of the writer and of many other teachers who have used the book." It is commended to health workers, and particularly to those who are interested in the important field of health education. Health workers, especially, should read it critically to compare their methods in protecting the public health with those dealt with by Dr. Turner.

Douglas L. Cannon.

Reconstructive Surgery of the Eyelids. By Wendell L. Hughes, M. D., F. A. C. S., Hempstead, New York. Cloth. Price, \$4.00. Pp. 160, illustrated. St. Louis: The C. V. Mosby Company, 1943.

This work is written to describe and illustrate the various methods of repair of deformity of both the upper and lower lids as the result of accidental or surgical absence of all or any portion of the lids. The presentation of this work is certainly well timed because the number of such deformities is greater during war than during peace, although at any time, it should serve a wide scope of usefulness for those who are interested in this type of plastic surgery. A historical review of the previous methods of lid repair is included and there is a comprehensive list of the literature on the subject for reference. Finally, Dr. Hughes has evolved a method of reconstruction for the total absence of a lid which is to be highly commended. This subject, of course, is of primary interest to those who are doing this type of surgery. However, it is well arranged and presented, and is not so comprehensive as to be beyond the range of interest of the average practitioner.

Daniel S. Hagood.

A Synopsis of Clinical Syphilis. By James Kirby Howles, B. S., M. D., M. M. S., Professor of Dermatology and Syphilology, and Director of the Department, Louisiana State University School of Medicine; Senior Visiting Physician, Charity Hospital of Louisiana at New Orleans; Visiting Physician, French Hospital, Mercy Hospital, Hotel Dieu, Southern Baptist Hospital and Touro Infirmary, Cloth. Price \$6.00. Pp. 671 with 121 Text Illustrations and 2 color plates. St. Louis: The C. V. Mosby Company, 1943.

A synopsis of clinical syphilis is a compact book on syphilis as it affects the human body. In the preface it is stated, "as more than one writer has pointed out, the treatment of syphilis reqires a knowledge of the whole field of medicine. The corollary is that a physician who undertakes to write a text on syphilis has in effect taken all medicine to be his province, while a physician who undertakes to write a synopsis of syphilis has undertaken the task of compressing all of medicine between the covers of a book of strictly limited size". The reader is asked to bear these facts in mind.

This book is divided into three sections; General Considerations of Syphilis; Systemic and Regional Syphilis; and the Familial and Public Health Aspects of Syphilis. In the opening chapter, pathology and general consideration of syphilis, distribution of lesion, blood picture, reinfection, etc. are discussed. Classifying the late stages of syphilis tertiary and parenchymatous seems to the reviewer a more difficult method than to place these two stages under the heading "late" syphilis.

Primary, secondary, latent and late syphilis are discussed and some very excellent photographs are used to demonstrate these lesions. The chapter on physical examination is very good indeed. The various schemes of treatment that are put forth are modified versions of the cooperative clinical group schemes of treatment.

W. H. Y. Smith.

AMERICAN MEDICAL ASSOCIATION NEWS

WARNS OF THE DANGERS UNDER WAG-NER-MURRAY-DINGELL BILL

NO NEED FOR REVOLUTION IN MEDICAL EDUCA-TION, THAT WOULD BE BROUGHT ABOUT BY MEASURE, JOURNAL OF THE A. M. A. DECLARES

"Is the rate of progress in medical education in America so slow and the stage which it has attained so inferior and the hope of further progress so hopeless as to call for a revolution?" The Journal of the American Medical Association for October 23 asks in the second of three editorials on the Wagner-Murray-Dingell Bill. "Those who have observed this progress and present attainments," The Journal continues, "say emphatically 'No.' At the beginning of this century the American Medical Association first collected and published statistics on the medical school situation in this country. In 1904 it created a permanent Council on Medical Education and began a series of annual conferences. In 1909 at the time of the fifth annual conference, only 17 schools required two or more years of college work for admission. Many medical schools were private enterprises depending on tuition for support. A large number made the payment of such tuition almost the only standards of admission, and often of graduation. In 1906 there were 162 medical colleges in the United States, many of them little more than 'diploma mills.'

"The Council on Medical Education and Hospitals was without legal power; nor was it connected with any political or governmental agency. It achieved its results by advising and cooperating with medical schools, following thorough, impartial examination of curriculums, equipment, faculty and other requisites or essentials for teaching. Yet by 1943 the number of schools had been reduced to 76, whose standards of admission and whose quality of education were such as to place them among the foremost medical educational institutions in the world. This is still a larger number of medical schools than exists in any other two nations combined; they are graduating as many physicians as did the much larger number of inferior schools existing at the beginning of the century.

"Medical education is the necessary ingredient for quality in medical practice. Only through improved medical education comes the possibility of better and better service to the public, carrying with it reduction in morbidity and mortality and extension of the life period.

"There has been progress in medical education in other countries. In no other country, however, and certainly in none with compulsory sickness insurance, has the rate of advance been so rapid or the standards reached so high as in the United States. At the beginning of the century the superiority of European medical schools caused American physicians to flock to them to complete their education. Today the tide has been reversed. Physicians throughout the world seek American medical schools as the climax of their educational career. This period during which America outstripped the former world leaders in medical education was those years in which the physicians of the lagging nations were being forced into systems of compulsory sickness insurance.

"Compulsory sickness insurance in Germany put 'panel doctors,' or 'kassenaerzte,' in a class apart from private practitioners. Even the advocates of sickness insurance will scarcely claim that the titles applied to insurance physicians carry any certification of professional superiority. In other countries insurance practitioners do not have opportunities or inducements such as have led to extensive postgraduate work among general practitioners in America.

"The Wagner-Murray-Dingell Bill in section 1111 proposes an entirely new method, revolutionary in almost every point, for the support and control of American medical education.

"Bureaucratic control of medical education will inevitably destroy the standards of excellence that now characterize the medical schools of America. Such a revolution in control could not well avoid disrupting the methods of selecting students which is essential to the preservation of the high personal qualifications and ethical integrity of the medical profession."

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THE MANAGEMENT OF ACUTE APPENDICITIS

EARLE DRENNEN, M. D. Birmingham, Alabama

Operations for acute appendicitis are so common that any discussion may seem superfluous to many. While the death rate has been greatly lowered by the use of sulfonamides, nevertheless there are deaths which could probably be prevented since they are due to faulty operative technique. There will always be some cases which have been neglected and those complicated by diabetes, severe cardiac disease, extreme age, and other contributing impairments that cannot be saved by the most perfect technique or treatment. In fact, some of these cases are moribund when seen by the surgeon. The question of diagnosis and the time for operation will not be discussed in this paper. We believe, however, in immediate operation on all cases that are not actually moribund.

The two greatest factors in preventing mortality today are spinal anesthesia and wide incisions, permitting removal of the appendix without spreading the infection or roughing the peritoneum and intestines. Deaver retractors are essential in many cases to obtain a correct exposure.

The question of anesthesia is of paramount importance. We firmly believe that the one perfect anesthesia is pontocain-glucose spinal anesthesia, as given at the Lahey Clinic in Boston. We have now given more than 7,000 spinal anesthetics by this method without a death, and, in this series, there has been no postoperative nerve injury or paralysis. We have a few patients who come refusing to take spinal anesthesia, and in this they are justified unless the anesthesia can be given by experts.

We feel very strongly that deaths attributable to spinal anesthesia have been due to faulty technique. The technique must be meticulous and exact. The amount and strength of the solution, the position of the patient immediately afterwards for three or four minutes are things of the utmost importance. The attention of the anesthetist must be continuous and absolute. Unless the ampoules of anesthetic solution are stored in colored alcohol the contents may seep out through a small flaw and be replaced by alcohol, without being detected. This accident has been known to result in severe peripheral neuritis of the lower extremities.

Of course, with the laity, spinal anesthesia must take the blame for such accidents. Comparatively few surgeons or anesthetists are familiar with the refined and exact technique of spinal puncture as introduced by Dr. Sise. This requires a small caliber gold needle, which is unbreakable, and an introducer, which consists of a hollow needle with a metal disk at one end. The sharp end is passed through the interspinous ligaments, leaving the needle free and sensitive to the feel of the dura. There is no condition in surgery in which a quiet abdomen with contracted and immobile intestines is more to be desired than in acute abdominal conditions.

INCISIONS

There are many good surgeons who still adhere to the McBurney incision. It is a lazy man's incision. We feel very strongly that those who use only the McBurney incision will have an occasional death which could have been avoided. When all goes well it is an easy and self-satisfying pro-

cedure. However, there are abscesses and gangrenous appendices ready to rupture at the slightest touch. These often cannot be visualized through a McBurney incision, and, hence, cannot be emptied or properly handled on that account. Often the Mc-Burney incision is the difference between a clean operation with no need of drainage and one where gross contamination has been added to the patient's difficulties. narily, the Battle incision (also called the Kammerer) should be preferred. A vertical incision below the umbilicus is made at the junction of the outer and middle thirds of the right rectus muscle. The muscle is retracted inward and, with care, no injury need be done to the nerves. This gives a good exposure which can be easily enlarged. If there is doubt, and one wishes to visualize the gallbladder or duodenum, a right paramedian incision is preferred. A vertical incision about 11/2 inches to the right of the midline is made downward through the anterior sheath of the rectus muscle, which is retracted outward. The incision can be extended upward to remove the gallbladder or downward for pelvic work, if need be. These incisions permit removal of the appendix under direct vision. It is true the paramedian requires about ten minutes longer but it pays good dividends.

An appendix on the point of rupture can be walled off and removed cleanly. One that is wrapped up in omentum should be removed, amputating the omentum and leaving it attached to the appendix. The abscess cavity can be emptied by suction, after walling it off with packs, the cavity dried and sulfanilamide distributed throughout its extent.

With either of these incisions, drainage should be made through a small stab wound of the McBurney type and drain, or drains, placed and led out this way before the peritoneum of the main incision is closed. After this has been done and the peritoneum closed, the wound should be cleansed, gloves changed and clean instruments used for the closure. If this is done, and a small amount of sulfanilamide powder placed in the incision, there will rarely be an infection, and hernia will certainly be avoided.

It is a tragic disappointment to a patient to recover from a serious operation and illness and then have to face the prospect of operation for the cure of a hernia in the operative wound.

It has long been known that the point of perforation has some influence on the morbidity and mortality rate. Those that perforate near the tip or middle of the appendix practically never permit much leakage of intestinal contents, while those that rupture at the base may permit gross contamination with liquid feces which contain billions of virulent organisms.

When a latent perforation can be seen at the base, it is most important to pass a mattress suture of catgut around this whole area and to hold it with enough tension to prevent escape of intestinal contents. Then, the appendix can be removed and the mattress suture tied snugly.

As to the question of drains, a cigarette drain is to be preferred, and if there has been an abscess in the pelvis, a small cigarette or penrose drain should be placed in this region and led out through the stab wound. Drains should be left from seven to ten days until a tunnel has been formed around them by a new connective tissue, preventing collapse of the tract with retention of secretions deep in the wound.

In cases with peritonitis, sulfanilamide or sulfathiazole powder should be dispersed intraperitoneally throughout the affected area, and a slight amount in the incision itself. Five to ten grams are sufficient. One of these drugs is given by mouth or parenterally in sufficient dosage to keep the blood concentration at the desired level. When indicated, transfusion of blood given slowly by drip method is of great benefit.

Cases with marked distension are placed under an oxygen tent of fairly high concentration.

CONCLUSIONS

- 1. The advantage of spinal anesthesia in the management of acute appendicitis is stressed.
- 2. The advantage of wide incisions and visualization of the operative field is emphasized.
- 3. The prevention of postoperative hernia by suitable incision is discussed.
- 4. The use of sulfanilamide and sulfathiazole is advocated and their life-saving properties and value noted.

CONSTIPATION IN INFANCY AND CHILDHOOD

W. HILL McCASLAN, M. D. Union Springs, Alabama

Constipation is one of the most frequent conditions met with in infancy and childhood; and, unfortunately, it is too often treated in a haphazard manner and with an "Oh, give him a laxative" attitude. Constipation in infants may develop into chronic constipation of childhood and adult life, with attendant headaches, nervousness, various gastro-intestinal disorders, and a multitude of other symptoms and conditions. In these cases the old adage, "An ounce of prevention is worth a pound of cure," is only too true.

Constipation can vary greatly in degree and character. Generally speaking, it may be said to be present if the bowels are not opened at least once in forty-eight hours. Constipation is usually thought of in terms of hard, dry, formed stools passed at irregular and prolonged intervals; but some infants and children may have three or four such hard stools daily and still be constipated. On the other hand, especially in breast fed infants, the stools may be of normal soft consistency but passed at prolonged intervals.

The causes of constipation are many and varied. In some cases there seems to be a hereditary predisposition. Cretinism and mental deficiency often have an associated constipation. Imperfectly developed or sluggish nervous mechanism controlling peristalsis, especially in the colon, may be the predominant factor.

Various congenital anomalies, such as imperforate anus, constriction of the rectum, Hirschsprung's disease and congenital pyloric stenosis may be the cause of constipation. These conditions require proper surgical or medical treatment as indicated, and have no relation to the type of constipation usually seen. The structural peculiarity of the infant's alimentary canal, with the relatively greater length of the intestine, especially of the sigmoid and the mesentery, favors the occurrence of constipation.

One cause of constipation in infants that is frequently overlooked has an embryologic background. The line of fusion of the proctodeum with the entoderm lies just within the anus, and this is a point of natural steno-

sis. The sphincter muscles are not fully developed, and the anal orifice is a narrow, more or less fibrous ring. In many babies this fetal condition persists after birth, and the anal opening is small and relatively inelastic. Babies are animals of instinct, and when they find that the pressure of the fecal mass on the anal ring causes pain, they naturally try to inhibit defecation. This leads to many cases of chronic constipation. and it is a condition that can be easily corrected. Digital dilatation at intervals of four or five days to a week for three or four treatments will correct the vast majority of these cases. Begin by using the little finger, well lubricated, and inserted very gently so as not to tear the mucous membrane. Change to the index finger at the next dilatation, and repeat for one or two more treat-The results of this treatment are ments. often striking, and a constipated baby is changed to one with normal, easy bowel movements within a few days' time.

Spasm of the sphincter, due to fissure or other form of irritation, causes painful evacuation and the tendency to hold back as in the case of tight anal ring. The underlying cause should be found and treated.

Habit formation is of utmost importance in infants, and it is too often neglected. Regularity of bowel movement is just as important as regular hours for eating and sleeping. The infant should be started early in life in this training. The urge for defecation is more pronounced immediately after taking food. Therefore the infant should be put on the chamber twice a day shortly after being fed; it is important that the same hours each day be selected. With proper training many infants can be taught to use the chamber regularly by the time they are four or five months old. Many infants who do not have a bowel movement while lying on the back will have an easy evacuation when held upright over the chamber. The upright, squatting position is the normal position for emptying the bowel and it should be taught to the infant early in life. The retention of fecal material in the colon leads to dilatation and atony of the bowel, so that the condition is liable to become progressively worse. If the stool reflex is regularly disregarded it soon ceases to be felt, and the ordinary irritation from fecal masses produces no response whatever.

Constipation in breast fed infants is usually due to underfeeding. Where constitutional factors can be ruled out, supplemental feedings will usually correct the condition.

Insufficient intake of fluid, especially in hot weather, may lead to constipation. The fecal material is largely of fluid content in the small intestine. As the fecal mass enters the ascending colon and is propelled along the colon the fluid content is gradually reduced and absorbed by the mucosa. Due to the dehydrating effect of the mucosa the presenting part of the stool is hardest. If there is not sufficient intake of fluid, this presenting mass may be so hard as to cause pain and spasm of the sphincter. The stool reflex ceases and recurs with the next feeding. By this time the mass is harder and causes more pain, and thus a vicious circle is established.

In such cases the use of irritant enemas or continual use of glycerin suppositories will have a tendency to enhance the constipation. But by using an enema of plain tepid water or a warm normal saline solution, much good may be accomplished if the enema is properly given. With the infant on its back, gently elevate the legs until the thighs are pressed against the abdominal wall. In this position the sphincter usually relaxes, and sometimes a normal stool results with no further treatment. If a bowel movement does not occur, gently insert the well lubricated tip of an infant syringe and slowly inject the solution. Allow the nozzle of the syringe to remain in place five or ten minutes. If this procedure is followed twice a day at the same time for several days, usually a normal stool reflex is established and the enemas may be discontinued.

An excess of protein has a tendency to neutralize the laxative effects of carbohydrate and slow up peristalsis. An increase of carbohydrates that are not easily fermentable does not always relieve the condition, for this carbohydrate may be quickly absorbed, taking more water with it and thus make the constipation worse. Liquid malt or malt soup mixtures are the best carbohydrate to use to neutralize the effect of the protein.

Too much fat in the diet results in the formation of calcium soap stools which inhibit the growth of aciduric bacteria and thereby slow up peristalsis. A reduction in the fat content of the diet, with the addition of some carbohydrate, especially the malt extracts, will often overcome the cause of the constipation.

Absence of fruits, vegetables and cereals may result in constipation in the artificially fed infant. Orange juice in the amounts usually given has no laxative effect; prune juice is more effective, due to the higher sugar content. Apple sauce or apricots may be given. Coarse cereals, such as oat meal and other whole grain cereals, are more effective than Cream of Wheat, Farina or other smooth cereals, and may be given to infants over six months of age.

An infant of neurotic tendency may be constipated. He may discover early in life that he creates concern in the parents if his bowels do not move. This is a temptation to him to refuse to do what is expected of him, and this may be a contributory cause of constipation. These cases must be handled with tact and firmness, but do not make a fuss over the situation.

In older children a careful history should be taken to determine if the constipation is chronic or of recent occurrence. Lack of habit formation, improper diet, constitutional diseases, and neglect of constipation in infancy are common causes of constipation in older children. A sense of shame in young girls when away from home may play a part in the beginning of constipation. The hurly burly of modern life and rushing off to school immediately after a hasty breakfast is gulped down are very definite causative factors in constipation. Older children who suffer from constipation may look sallow and pale, and are frequently dull and languid, and suffer from headaches. There is often loss of appetite and failure to gain weight; and they are irritable and do not want to play.

The treatment in these older children may require more time and patience than in infants. Faulty habits should be corrected. It is important to see that children get a sufficient amount of rest and sleep. The diet should be gone into carefully, and a diet containing cereals, fruits, whole wheat bread and green vegetables should be in-

stituted. It is very important that the child go to the toilet at the same time every day. Choose a time when there is no need to hurry. Have the child take a book that he is interested in and instruct him to sit on the toilet at least fifteen minutes. Mental relaxation and freedom from excitement and worry are important adjuncts to free bowel movements. The toilet should not be too large for the child's buttocks, nor should it be so high that his feet do not touch the floor. The child at stool should sit well supported and on a seat that is neither too large nor too small, and in such position that the thighs are flexed and the feet are on the floor.

The habitual use of cathartics, enemas or suppositories is to be condemned. Long continued use of any of these may tend to cause irritation of the colon and rectum, and may result in mucous colitis or other more serious conditions. The child also gets the idea imbued in him that he cannot have a bowel movement without these artificial aids, and he ceases trying to evacuate the bowels.

In those cases where the simple means outlined fail to relieve the constipation, drugs may be resorted to over a short period of time. Where there is pylorospasm or other spastic conditions present, small doses of atropine may be all that is necessary. If laxatives are given they should be mild and non-irritating. Milk of magnesia, cascara, or syrup of figs are the laxatives of choice. Even these should be given guardedly and never over a long period of time. It is better to give repeated small doses of cathartics rather than one large dose.

It may be said that the vast majority of cases of constipation in infancy and childhood are due to three things: 1. faulty habits, 2. faulty diet, and 3. tight anal ring. Most of these cases can be cured by proper habit formation, dietary readjustments, and by dilatation of the tight anal ring. Patience and perseverance must be practiced by both the doctor and the mother. Drugs, enemas and suppositories must be used very guardedly. Improper or long continued use of any of them may increase the constipation or cause irritation of the colon or rectum. Many cases of incipient or mild constipation are changed to chronic constipation through carelessness or unwarranted treatment on the part of the mother or doctor, or both.

Aortic Aneurysm-The chief differential diagnosis is between this condition (aneurysm of the aorta) and myocardial infarction. Sudden tearing pain during exertion, with the pain high in the chest with a widespread distribution and rarely, if ever, radiating to the arms, speaks for a dissecting aneurysm. In myocardial infarction the pain is lower in the chest, and radiates frequently to the neck and to the arms; there is usually a history of angina, and the condition often comes on at rest, but this does not imply that exertion does not precipitate an occlusion in diseased vessels. Shock ensues rapidly, though the blood pressure may be normal or even high in cases of dissecting aneurysm. Shock comes on more slowly in myocardial infarction and the blood pressure is more apt to be low when the patient is first seen. However, it is a common experience to find the blood pressure normal and even high in coronary occlusions, if the patient is seen early enough. In dissecting aneurysm there is no change in pulse rate or volume, but signs of arterial blockage may be present early on one side. On the other hand, since the heart is severely insulted in coronary occlusion with myocardial infarction there will be changes in the rhythm, rate, and volume of the pulse; and there will be no early embolic-like phenomena. The electrocardiogram is typical in cases of occlusion with myocardial infarction but does not rule out dissecting aneurysm. Bloody pleural effusion may be found with aneurysm; it is rarely met with in myocardial infarction. Roentgen rays are helpful in the diagnosis of dissecting aneurysm.

Another condition to be excluded is syphilitic aneurysm. Here one does not necessarily find a rise in the blood pressure; sudden pain is rare; there is a history of substernal oppression and of syphilis. Often the patient has either an aortic regurgitation or a ringing aortic second sound; and the roentgenogram will often show erosion of the bone.

Cerebral hemorrhage may be ruled out by the absence or diminution in the carotid pulsations on one or both sides. A spinal tap is of value in finding if bloody fluid is present.

Pulmonary embolism. Here there is a history of a bed patient, with a possible operation or disease of the heart or the veins.

Other conditions that might rarely be confused are surgical abdominal conditions, abdominal tumor, pneumonia, coarctation of the aorta, and spontaneous collapse of the lung.

The prognosis is definitely poor. If there is rerupture into the lumen of the aorta the condition may cure itself. However, 90 per cent of patients are dead within a few days.—Zionts, Texas State J. Med., November 1943.

NEXT ANNUAL MEETING OF THE ASSOCIATION MONTGOMERY, APRIL 18-20, 1944

CANCER OF THE BREAST

JOHN L. CARMICHAEL, M. D. Birmingham, Alabama

One has some hesitation in choosing as his subject cancer of the breast when so much has been written and spoken about this disease in the last few years. My excuse for presenting a paper on this subject, to which, I confess at the outset, I can make no original contribution, is the fact that out of the great confusion existing because of recent advances in irradiation therapy there is finally some crystallization of opinion. One finds at last on some disputed questions statistics from widely different clinics which point to the same conclusions.

The high incidence and high mortality of cancer of the breast are also valid reasons for frequent discussion of this malady. In 1939,¹ among women in the age group 34 to 54, cancer ranked as the first cause of death, striking down more than any other disease, and this in probably the most useful period of a woman's life. Among cancer deaths in women, according to Frank Adair,¹ 40 per cent are due to breast cancer.

The etiology of breast cancer is no better understood than that of cancer elsewhere. We know age is a predisposing factor. By far the majority of cases of cancer of the breast occur after 35. Yet, in our small series of cases in the Hillman Tumor Clinic, we have had one case under 25 years of age. In the American College of Surgeon's series of 2,636 cases reported by McDonald² in January 1942, there appeared 13 cases under 25. Ten of these were five-year cures.

Abnormal physiologic function seems to be one of the most important of the predisposing factors. It has been noticed that women of uncivilized tribes who suckle their young for two or three years rarely have cancer of the breast. On the other hand, civilized woman, who is less and less frequently and for a shorter period of time nursing her young, is becoming more and more frequently the victim of cancer of the

breast. The incidence of breast cancer in the nulliparous woman in the College of Surgeon's series indicates that the nonfunctioning breast is more often the seat of cancer than the breast that has been called into function by childbearing. Bagg,³ by separating litters of mice from their mothers very early, was able to produce breast cancer in 15 per cent of breeding mice, and this in a strain of mice that had had no cancer for ten years.

The fact that the majority of breast cancers occur in the upper outer quadrant has lead some clinicians to believe that the stress produced on the tissues of this quadrant of the breast by tightly fitting brassieres might be an etiologic factor in this disease. For this reason these clinicians urge women to wear the uplift type of loose fitting brassiere.

Now that various educational campaigns bring the patient to the physician earlier than formerly, the problem of diagnosis is assuming more importance. A greater number of women than ever before are coming with simple benign conditions of the breast, and to subject them to biopsy for some of these conditions would be unfair. It would, however, be even more unfair to let a possible early malignancy go undiagnosed. Time will not permit a consideration of differential diagnosis but a few of the conditions which have to be considered can be mentioned. In adolescence a common condition is an inequality in the size of the breasts. The breasts are normal in every other respect. Although this condition is quite disturbing to the mother, given several months it will usually cure itself. Another condition is that which is discussed under many names, such as chronic cystic mastitis, or mazoplasia of the breast, or Schimmelbusch's disease or adenosis. Two separate conditions are probably included under the above terminology. One condition is characterized by numerous small cysts or occasionally by one or two large cysts. This condition appears in women near the meno-

Read before the Jefferson County Medical Society, Birmingham.

2. MacDonald, Ian: Mammary Carcinoma, Surg., Gynec. & Obst. 74: 75-82 (January) '42.

^{1.} Adair, Frank E.: Consideration of Recent Additions to Clinical and Experimental Knowledge of Breast Conditions, West. J. Surg. 48: 645-661 (Nov.) '40.

^{3.} Quoted from Ian MacDonald: Mammary Carcinoma, Surg., Gynec. & Obst. 74: 75-82 (January) '42.

pause and is apparently due to lack of estrogenic hormone. The condition is improved or relieved by injection of this hormone in large doses. The other condition is what Frank Adair1 calls the fibrous or adenomatoid type of mastitis. This is due to too much estrogenic hormone and will not be relieved by further injections of estrogens. These, however, may be relieved by increasing the deposition of fat in the breast by inducing general weight gain. This latter condition probably represents a precancerous condition and should be carefully watched.

A number of other benign and precancerous lesions of the breast may present themselves. Some of these are papilloma in the ducts of the breast, fibro-adenomas and the various granulomas, such as the gumma of syphilis. All of these latter lesions, and any other lesion characterized by a palpable lump in the breast, no matter how benign it may seem, should be removed and studied in frozen section by a competent pathologist after the patient is prepared for a radical mastectomy. It is also important to insist on a frozen-section study of any lesion no matter how surely it appears to be malignant before a radical mastectomy is done. There has appeared in recent months in the Hillman Tumor Clinic a patient who had a radical mastectomy without frozen-section study for what later was recognized as fibrous tissue replacement of fat necrosis. I have also found reported in the literature one case in which cancer was thought certainly to be present but at biopsy a gumma was found.

Although cancer of the breast is a devastating disease, one gets the impression that the public and physicians as well have too pessimistic an outlook in regard to the disease. Although many cases do not come to a physician in time to have a chance of cure, yet it is true that of those who come before axillary metastases have occurred, and before there is fixation to the chest wall. 70 to 75 per cent attain five-year cures when properly treated. There is also a relatively small per cent of these 5-year cures who die later with cancer. Even of those cases in which axillary nodes are involved but in which there has been no further demonstrable metastases a 25 per cent five-year salvage is obtained, and most of these have no recurrences of the disease. Another encouraging fact is that a greater number of women are coming each year to the various clinics of the country while the lesion is still operable. This is due probably to the educational campaign carried on by the Society for the Control of Cancer. The operability rate at Mayo Clinic, according to Kunath, increased from 55 per cent in 1926 to 73 per cent in 1936.

For the consideration of the treatment of cancer of the breast we must divide the cases into three clinical groups. In Group I are those cases with the disease limited to the breast itself, i.e., without fixation to the chest wall and without axillary or more distant metastases. In Group II are those cases with metastases to the axillary nodes but without fixation to the chest wall and without metastases to more remote tissues. From this group most surgeons will exclude the cases in which the supraclavicular nodes are involved, but Harrington,5 of the Mayo Clinic, includes those cases in which the supraclavicular nodes of only the affected side are involved. In Group III are those cases in which there is fixation to the chest wall and or metastases away from the axillary nodes.

The types of therapy that have been used are (1) irradiation alone, and this may be roentgenotherapy or interstitial irradiation alone or together: (2) surgery alone, and this may be radical or only partial; (3) irradiation and surgery; and in this therapy the irradiation may be either pre- or postoperative or both, and the surgery may be radical or partial.

In regard to the Group III cases, all are agreed that only palliative therapy is possible and roentgenotherapy alone is the treatment of choice. It may occasionally be supplemented by some form of palliative surgery, such as simple mastectomy. Interstitial irradiation would not be considered any more than would radical surgery. Although this therapy is not curative, it is very useful and should be conscientiously applied. It does lengthen life and make life more comfortable and even more useful. As some one has suggested, it may do as much in this respect probably as does the medical treatment of congestive heart failure.

^{4.} Kunath, C. A.: Problems of Carcinoma of

the Breast, Arch. Surg. 41: 66-78 (July) '40.
5. Harrington, Stuart W.: Results of Radical Mastectomy in 5026 Cases of Carcinoma of Breast, Pennsylvania M. J. 43: 413-427 (January) '40.

Roentgenotherapy alone in Group I cases gives only about 45 to 50 per cent five-year cures, according to the best controlled series of cases. Radical surgery alone, however, gives about 70 to 75 per cent cures, according to the statistics from various clinics; and interstitial irradiation approximately the same as radical surgery. In Meland's 6 series, however, at the Los Angeles Cancer Institute the survival rate after five years did not hold up as well in the radium treated cases as in the surgically treated cases. This is as would be expected from the report that Roscoe W. Teahan⁷ gives on 68 cases treated by interstitial irradiation at the Jeanes Hospital, Philadelphia. Of these 68 cases, seven were found later to have a mass at or near the axilla, and five of these masses contained living cancer cells. The disadvantages of interstitial irradiation are several. There is a longer period of hospitalization and a longer period of convalescence. The irradiation fibrosis frequently severely limits motion of the arm. Closer follow-up must be carried out and telangiectasis and retraction of the breast may cause a poorer cosmetic result than the radical operation. Lately Keynes, the leader in interstitial irradiation, has added simple mastectomy as a treatment in some of his cases. It is difficult to see the advantages of interstitial irradiation over surgery except in a very few patients who are poor surgical risks and who object strenuously to radical surgery.

There is a pretty general agreement that not only is surgery the treatment of choice in Group I cases but that surgery when employed should be radical surgery. The marked improvement in the curability rate of breast cancer after the Halstead type of operation became generally used is strong argument against less radical procedures. White⁸ at Roosevelt Hospital, New York City, formerly left in the pectoralis minor muscle but after having too many recurrences in the axilla he concluded that ade-

quate dissection of the axilla required removing both pectoral muscles.

Although some clinics report good results from simple mastectomy in Group I cases we believe this a dangerous procedure since no one can be sure that a given case has no axillary metastasis until operation is done. Reports from various clinics indicate that about 30 per cent of these cases thought to have no axillary metastases are found at operation to have them. If roentgenotherapy is not used, it is obvious that these 30 per cent have no chance of cure. If roentgenotherapy is used, there is no reason to think it would be more effective than in the cases in which it is used without surgery and in which, as stated before, it produces results inferior to that of surgery.

Most clinics agree that neither pre- nor postoperative irradiation adds any cures to Group I cases.

In Group II cases it is almost unanimously agreed that radical breast amputation should be done and that some form of irradiation therapy should be given. The opinion reached in the clinics with the best controlled series of cases seems to be that preoperative irradiation adds nothing to the number of cures whereas postoperative irradiation in these cases adds about 10 per cent to the five-year cures. There are statistics from good clinics, however, which cast some doubt on the judgment that preoperative irradiation is of no value. Such statistics are included in Meland's report from the Los Angeles Cancer Institute. He found in his cases treated by preoperative irradiation and surgery a 47 per cent fiveyear survival rate as compared to a generally accepted 30 per cent five-year survival rate. In those cases given postoperative irradiation he found an 11 per cent improvement in the number of cases which is about the average of that reported from other clinics.

The sterilization of the premenopausal woman is another controversial point. The majority of opinion seems to be now that sterilization should be reserved for the cases with recurrences and especially for those who have recurrence in the bone, or for the inoperable cases.

To summarize then the discussion in regard to treatment, one would say that when a patient presents herself with a lump in the breast with or without palpable axillary

^{6.} Meland, Orville N.: The Influence of Radiation on Longevity in Cancer of the Breast, J. A. M. A. 118: 274-278 (Jan. 24) '42.

^{7.} Teahan, Roscoe W.: Treatment of Carcinoma of the Breast by Interstitial Radiation, Am. J. Roentgenol. 45: 567-588 (April) '41.

^{8.} White, William Crawford; Postoperative Roentgenotherapy in Cancer of the Breast, Ann. Surg. 108: 21-31 (July) '38.

lymph nodes she is examined for any evidence of enlarged supraclavicular nodes and for lung and bone and other remote metastases. If none is found she is prepared for radical mastectomy and the lump is removed. A frozen-section study is immediately done. If cancer is present a radical mastectomy is immediately performed.

If no axillary nodes are involved no further therapy is given, but the patient is impressed with the need for close follow-up and advised to have occasional x-ray of the chest, and if any pain in bones occurs an x-ray picture of these are taken.

If the patient is found to have axillary metastasis, as soon as possible after opera-

tion she is given 1200 to 1800 roentgens over each of three portals, the breast site, the axillary area and the supraclavicular area in fractional doses over a period of several weeks. After this treatment she is advised as to the need for follow-up visits.

If, when the patient presents herself, we find metastases more distant than the adjacent axillary lymph nodes, she is treated only palliatively. She is given roentgenotherapy to the areas indicated and to the limit of skin tolerance and with due regard to the tolerance of the underlying vital organs. If she is premenopausal sterilization may be done.

SURGICAL JAUNDICE

J. M. WASHAM, M. D. Talladega, Alabama

Jaundice is a problem for the general practitioner, the pediatrician, the internist, the gastro-enterologist, roentgenologist, dermatologist, surgeon, and even the public health official since it is now known that it may be infectious and epidemic.

Patients of all ages present themselves jaundiced to the doctor: The babe with the simple jaundice of the newborn, occasionally with the more serious icterus gravis; the child with acute infectious jaundice, commonly known as catarrhal jaundice, or one of the inherited forms as Von Jachs disease, or some type of familial jaundice with associated enlarged spleen. Rarely, one sees a child with biliary tract disease with stones. The adult comes with acute infectious jaundice, biliary disease associated with stones and obstruction, hemolytic jaundice or malignant disease.

The incidence of jaundice rises with maturity and middle life and increases as age increases, the greatest incidence being from forty to the allotted three score and ten years. It is in this age group that the greatest number of cases of obstructed or surgical jaundice occurs.

Since this discussion is to be limited to the group of cases classified as surgical jaundice, other than mentioning the other types

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by way of limitation, we shall discuss the patient who is jaundiced or has been jaundiced for varying lengths of time, from a few days to a few weeks, the jaundice usually increasing in intensity, with associated emaciation, gastro-intestinal symptoms, increasing weakness, itching, dry skin and obstruction of the biliary tract. Sixty to seventy per cent of the jaundiced patients belong in this group or classification. There has been a woeful lot of confusion as to how this group of patients should be treated. Usually, the patients with jaundice, biliary colic, nausea and vomiting are considered surgical at once and offered operative relief. It is the so-called painless jaundice case that is so often incorrectly diagnosed and mismanaged. The jaundice being thought to be due to malignant obstruction of the biliary tract, there is nothing to be done except give a fatal prognosis and try to palliate the suffering. Jaundice without pain, or painless jaundice, is not necessarily due to malignant disease. In a group of two hundred and seventy-five cases, twenty-two per cent of the cases of jaundice due to obstruction of the common duct with stone had no pain. Fifty-five per cent of the cases where the obstruction was due to benign stricture of the common duct had no pain. Fifty per cent of the cases of jaundice due to malignant disease of the pancreas had pain. Those

figures express one of the main objects of this effort. If I can, in some way, blast out of every one's mind the outmoded idea that painless jaundice means malignant disease and nothing can be done, I feel that I will have done humanity a good service today.

There are many ways to classify jaundice: obstructive. non-obstructive. infectious. hemolytic, intrahepatic, extrahepatic, toxic and so on. We prefer to use Mc Nee's classification of (1) extra-hepatic obstructive jaundice, under which heading comes obstruction of the common or hepatic ducts due to stones; strictures of the common or hepatic ducts; obstruction due cholangitis; tumors, cancer of the pancreas, cancer of the bile ducts; or external pressure due to enlarged nodes, inflammatory masses or adhesions; (2) intrahepatic jaundice due to toxic or infectious causes, in which the ducts are open, but the parenchymal cells do not function; and (3) hemolytic jaundice, in which the ducts are essentially normal, the jaundice being due to excess formation of bilirubin outside of the liver.

Bile is formed by the parenchymal cells of the liver, emptied into the ducts, and drained into the alimentary tract as needed; this being the secretory function of the liver. Bile is also formed outside of the liver by the spleen and other organs, and is excreted by the liver into the duct system, thence into the alimentary tract. Bile formed by the liver and bile formed outside of the liver differ chemically. It would seem that, if there is an excess of bile in the blood, it would be an easy matter to determine chemically if the bile causing the jaundice is of obstructive or hemolytic origin. For this purpose the van den Bergh test was devised. Its result was disappointing because obstruction with back flow of bile interferes with the excretory disposal of bile not originating in the liver, thus giving an increase of hemolytic bile in the blood serum from retention rather than over production. Unfortunately there is no laboratory test that will clearly distinguish between intrahepatic and obstructive jaundice. The distinction can be made however, in most cases, by carefully considering the history, making an examination, observing the results of a number of helpful laboratory procedures and observing the course of the patient's condition over a sufficiently long period.

Toxic jaundice may be ruled out by inquiring if drugs like cincophen, arsenic or chloroform have been administered. The galactose tolerance test may be helpful. The fluctuation of cholesterol and cholesterolester levels in the presence of jaundice may be helpful. A definite increase in the cholesterol level of the blood indicates obstructive jaundice. A marked decrease in the cholesterol-ester level indicates intrahepatic jaundice. The van den Bergh test, whether direct or indirect and positive, is to be considered. The quantitative estimation of the bilirubin in the blood serum from day to day, plotting a curve, certainly can be very helpful. A gradually rising curve of serum bilirubin in an elderly person indicates malignancy. A sudden rise and a sudden fall of serum bilirubin indicates obstruction from a stone. A sudden rise and a gradually falling curve of serum bilirubin indicates acute infectious jaundice.

The presence or absence of bile or blood in the duodenum, as determined by siphonage through a duodenal tube, is of considerable aid in differential diagnosis. Gross blood, or blood-tinged mucus, is rarely ever recovered from the duodenum, except in cases of carcinoma of the gallbladder, ducts or pancreas, unless there are associated lesions of the esophagus, stomach or duodenum. Even then it is uncommon. Continued complete absence of bile in the duodenum almost always means there is a cancer of the pancreas or bile ducts, or benign stricture of the common duct. In the acute stage of infectious jaundice, bile may be absent from the duodenum at times, but rarely is it absent from day to day. When there is a stone in the common duct, complete obstruction is rare, and small amounts of bile, the amount varying from time to time, will get by the stone, to be recovered with duodenal drainage. The finding of bilirubin-calcium pigment and cholesterol crystals in bile drained from the duodenum, in the absence of jaundice is almost always pathognomonic of cholelithiasis.

With all this information gathered and considered, one can select the obstructive jaundice cases with some certainty. Acute infectious jaundice will be the most difficult one to rule out. Realizing that sixty to seventy per cent of all jaundice after middle life is obstructive, that thirty or more per

cent is due to stones, fifteen to twenty per cent to benign strictures and other operable conditions, and that only fifty to fifty five per cent is due to malignant conditions, the picture begins to loom brighter.

In all reported series of cases the percentage of error in diagnosis of cancer of the head of the pancreas, obstruction due to stones being found instead, ranges from ten to twenty per cent. In one series of cases, one hundred and five in number, sixty two (59%) were diagnosed as surgical jaundice. Thirty four, or fifty four and eight-tenths per cent, were malignant; and twenty eight, or forty five and two-tenths per cent were due to benign, calculous obstruction or benign stricture. Of the thirty four cases diagnosed as malignant obstruction, four had obstruction from stones in the common duct. This error is so common that I feel all patients who have obstructive jaundice, in whom it is not obvious that there is extensive malignant involvement, should have careful preparation and be explored surgically. Recent improved management of patients jaundiced as a result of disease or obstruction of the biliary tract makes operation less hazardous, and insures better results than has heretofore been possible. Blood transfusions before and after operation, the administration of glucose intravenously before operation and during the critical period afterward, and the prevention of hemorrhage by administration of vitamin K before operation until the prothrombin clotting time is normal all help to make these patients able to stand surgery and recover where such formidable procedures were not possible formerly.

Discussing various surgical procedures and comparing one with the other is not our intention in this discussion. Mainly have I hoped to help clear up the diagnostic fog that has befuddled me so often when I have had a case of slowly increasing, more or less silent jaundice presented to me.

Perhaps it is not time wasted to mention specifically some of the surgical procedures for the treatment of jaundice. Cholecystectomy instead of cholecystotomy is almost universal. Incision of the common duct, removal of the stone, and prolonged T tube drainage cures all symptoms arising from stone in the common duct. Various plastic operations, as cholecystogastrostomy or

cholecystoduodenostomy, are procedures intended to relieve stricture of the common duct. Cholecystogastrostomy, cholecystoduodenostomy or choledochoduodenostomy are operations used for palliative relief of biliary obstruction from cancer of the pancreas or ampulla of Vater.

Earlier in the discussion I mentioned exploratory operation after careful study. I wish to emphasize that admonition. One should determine that the jaundice is obstructive, that the patient is able to stand the operation, has no massive malignancy and is carefully prepared for the operation, then go ahead. Suspected malignancy need not deter one. Judd, Hunt and others have successfully removed malignant lesions of the ampulla of Vater. Brunschwig, Whipple and others have successfully resected cancer of the head of the pancreas. Priestly removed the entire pancreas at the Mayo Clinic last year. Various methods and techniques have been devised for removal of parts of the common duct with adjacent duodenum, and restoration of the continuity of the ducts and gastro-intestinal tract. Since it has been established that the removal of the pancreas is compatible with life, although the procedure is formidable, resection of the organ for malignant disease is rapidly becoming more common and more successful. In a great many cases the palliative relief of an intolerable itching that can be given by short circuiting the bile into the stomach or duodenum, thus relieving the obstruction, will be deeply appreciated by a grateful patient.

Surgery of the Thyroid-Among the postoperative complications, the one most dreaded is the development of toxic crises. If this should be eminent or develop, morphine should be given immediately in doses large enough to insure rest from pain and nervous irritability. The patient should be given 20 per cent dextrose intravenously, placed under an oxygen tent, a sponge bath should be given for moderately elevated temperature and in severe cases, covered with ice packs to reduce the very high elevated temperature. Whole blood transfusions or plasma infusions might be most valuable if there is any evidence of collapse at this time. In these cases it is important to know that iodine therapy is adequate and if not, sodium iodide should be given intravenously. Other complications include hemorrhage, shock, nerve injuries, collapse of a bronchus or the trachea, cardiac complications, infection, and tetany.-McKemie, J. M. A. Georgia, November 1943.

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TREATMENT OF MINOR BURNS

"Much has been written on the subject of burns during the past decade and a half, and a large amount of laboratory and clinical investigation has been carried out. Nevertheless at the present time there is no method of local treatment which is accepted as standard by those who take care of these injuries. However, it can be said that for the more serious or hospitalized cases some unanimity of opinion is beginning to be discernible. . . ."

"It has been suspected that there has been considerably less standardization of the treatment of minor burns, such as are frequently seen in industrial plants. It was decided that it would be of considerable interest to know how these small injuries are being cared for and approximately what results are being obtained."

Thus do McClure and Lam¹ open their discussion of this ever present and generally neglected subject. The Detroit surgeons devised a form for the making of weekly reports and sent them to the medical directors of General Motors Corporation, Chrysler Corporation and the Ford Motor Company. They received 5,609 reports of minor

industrial burns, and their statistics and conclusions are based upon this truly enormous amount of carefully observed and accurately reported clinical material.

And the investigators go on to tell us that "the most striking fact brought out in the study was that no less than eighty-four different substances were used in the treatment of the burns in this series! Many of the remedies were proprietary preparations, some of which were adequately described on the labels or advertising literature; others were described ambiguously. There were several different brands of certain more or less standard substances, such as tannic acid jelly and vitamin ointments. . . . It would not be desirable in this paper to mention by name all the substances studied, but rather an attempt will be made to group the various remedies into categories to facilitate discussion."

The authors are dubious of the value of and need for tannic acid in the treatment of minor burns. They claim that tanning methods have not reduced the incidence of infection, that tannic acid may have a specific toxic effect on the liver, and that there is considerable evidence that it delays epithelial regeneration.

"There are a number of good surgeons who do not think that this meticulous cleansing of the burn is necessary. At the Coconut Grove Fire in Boston, the patients admitted to the Massachusetts General Hospital had no 'debridement' or cleansing; the burns were hastily covered with gauze impregnated with boric acid ointment and dressings applied over this. The results obtained in these cases were eminently satisfactory. It is well established that the unopened blister is not the infection hazard that it was once supposed to be. It may be that the best dressing for burned epithelium is the layer of plasma which has elevated the superficial layers of epidermis and formed a blister."

"Therefore we are faced with the conclusion that the application of a petrolatum dressing following some type of cleansing is good treatment for burns both large and small."

And we read that "the overemphasis of vitamin therapy in other fields has been extended to the treatment of burns." The authors are extremely doubtful as to the value

^{1.} McClure, Roy D., and Lam, Conrad R.: A Statistical Study of Minor Industrial Burns, J. A. M. A. 122: 909 (July 31) 1943.

of vitamin ointments. And, in regard to sulfonamide ointments, we are told that "there is no evidence from this study or in other studies of major burns that the use of local sulfonamides is of value in the prevention of infection."

And, in conclusion, we are advised that: "(1) An unreasonable number of different preparations are being used for the treatment of minor burns in industrial plants. (2) Regardless of what is put on the average minor industrial burn, it is apt to be healed in less than a week. (3) We recommend the following treatment for minor industrial burns: (a) Wash the area with white soap and water. (b) Do not break blisters or otherwise 'debride' the wound. (c) Cover with fine mesh gauze impregnated with petrolatum or five per cent boric acid ointment. (d) Apply a firm dressing over this, bulky enough to keep dirt away from the injury but not too large to keep the man off his job."

McClure and Lam have indeed done well to choose this particular subject because, for some unknown reason, the treatment of minor burns has always received scant attention in both text books and journals. While they deal with industrial burns only, their study should appeal to all surgeons and practitioners who must deal with burns and who will welcome their attempt to bring order out of chaos in this field. Many experienced and observant physicians have long been inclined to believe that wounds in general, including burns, have all too often been greatly overtreated and it is good to see that a more conservative and rational therapy may be beginning.

KEEP MEDICINE UNSHACKLED

Radio Address by The Very Rev. Raimundo De Oves, Dean of the Cathedral of St. Philip, Atlanta, Ga.

Reprinted from Southeastern Drug Journal, October 1943.

On June 3rd of this year, Senator Robert F. Wagner, of New York, and Senator James Murray, of Montana, introduced in the Senate Bill Number 1161.

Last Wednesday night I heard Senator Wagner speaking over the radio on this proposed measure. It sounded quite all right; and his address, as well as his bill, was

couched in the language of a true humanitarian. Listen for yourself to the wording of the preamble:

"To provide for the general welfare; to alleviate the economic hazards of old age, premature death, disability, sickness, unemployment and dependency; to amend and extend the provisions of the Social Security Act; to establish a Unified National Social Insurance System; to extend the coverage, and to protect and extend the socialsecurity rights of individuals in the military service; to provide insurance benefits for workers permanently disabled; to establish a Federal system of unemployment compensation, temporary disability, and maternity benefits; to establish a national system of medical and hospitalization benefits; to encourage and aid the advancement of knowledge and skill in the provision of health services and in the prevention of sickness, disability, and premature death; to enable the several States to make more adequate provision for the needy aged, the blind, dependent children, and other needy persons; to enable the States to establish and maintain a comprehensive public assistance program; and to amend the Internal Revenue Code.

The magnitude and comprehensiveness of the proposals, however, are more than I can digest; and the implications of several of the recommendations are disturbing, to say the least.

Senator Wagner did not go into that phase of the bill in his speech last Wednesday. He spoke in general terms, beautifully, vaguely, and threw no light at all upon the very serious questions that any good economist might ask. Tonight I shall discuss only one of those questions: "What is to become of medicine as we now know it, if this bill passes the Senate and the House?" It should be asked; and the whole future of medicine and the public health rests upon the answer!

As a layman, from the medical standpoint, I have no quarrel with the ideal and the altruistic purpose set forth in the bill; but I do question the method proposed and the machinery that would be set up under certain provisions of the bill.

In the first place, it is not a war time measure, but a detailed blue print for postwar and peace-time procedure. We should plan for the peace; but the time for legislature to enforce any inclusive and all embracing plan is not yet! Social legislation is necessarily a growth, not a product of fiat. We can provide legislation for many things that belong to social security. In fact, we have done so through the decades; but social legislation and social democracy are two

very different things. Germany of today is the fruit of social democracy—we want none of it here—and our men are dying on battlefields at this moment to make sure that we shall remain free from that political and tragic error.

So, I want all the desirable objectives proposed in the Wagner-Murray Bill but not in the way and manner these honorable Senators plan to achieve them.

I know many men in the medical profession, here in Georgia and elsewhere, whom I admire greatly; but I would not entrust to any one or any group of them political power to dictate the course that medical practice must take, either in this State or in the Nation. I distrust politically minded and politically ambitious doctors as much as I distrust politically minded and politically ambitious preachers. I have no objection to either doctors or preachers doing their political part as citizens and as individuals, but I earnestly desire to keep the politicians from meddling with the Church, as long as the Church keeps within the rights which are guaranteed under the Constitution, and that goes for the Jehovah Witnesses, too, in my honest opinion. Neither do I want to see politics curtail the rights of physicians, in their search for scientific truth and practice. Let us leave the profession of medicine free to govern its own members, just as the Church is free to do the same thing; that is, in matters which pertain to those two high callings.

But Bill Number 1161 would put the affairs of medicine, in the entire nation, under the control of the Surgeon General of the Public Health Service; and he would, of course, be a political appointee. I want none of it! So, as a non-medical man, I am saying so, publicly, which a member of the medical profession could not well do, without somebody accusing him of ulterior motives.

Let us see, then, what powers the Surgeon General would have, under the provisions of this bill:

- 1. To hire doctors and establish rates of pay, possibly for all doctors;
 - 2. To establish fee schedules for services;
- 3. To determine the number of individuals for whom any physician may provide service;
- 4. To establish qualifications for specialists;
- 5. To determine arbitrarily what hospitals or clinics may provide service for patients.

The bill provides (Section 905):

- 1. Any physician qualified by a State . . . can furnish medical service in accordance with such rules and regulations as may be prescribed—(by the Surgeon General).
- 2. Every individual . . . shall be permitted to select his own doctor or to change such selection in accordance with such rules and regulations as may be prescribed—(by the Surgeon General).
- may be prescribed—(by the Surgeon General).

 3. The Surgeon General shall publish the names of general practitioners who have agreed to furnish services;
- 4. Services which shall be deemed to be specialist services shall be those so designated by the Surgeon General . . .
- 5. General practitioners must recommend services of specialists.
 - 7. Payments to physicians may be made—
- a. According to a fee schedule approved by the Surgeon General.

This bill also provides that-

Sec. 960—Every employer shall pay a tax on wages paid to individuals (up to \$3,000 per annum) of 6%.

Sec. 961—Every employee shall pay a tax—deducted from wages on earned income—up to \$3,000 per year, of 6%.

That is—12% taxed on payrolls.

Sec. 963—Every self-employed individual shall pay a tax on the market value of his services at 7%.

Sec. 962—Federal, state and municipal employees (under certain conditions) shall pay a tax of $3\frac{1}{2}$ %.

Now, add that to the existing Social Security rate of 5% and income taxes, etc., and see what this security will cost us! It is, in round figures, 12 billion dollars raised through Bill 1161. However, only (!) 3 billion would be allocated to the medical care and hospitalization account—2% or 48 million to be spent by the Surgeon General on medical education and training—and what a nice little sum for good politicians to play with!—or any other individual.

I'm an honest man, I hope, but I would not like to have the responsibility for over 110 million people and 48 million dollars a year! It would not be fair to any physician who might be appointed as Surgeon General, either. I trust more in many average, intelligent and honest men in an honorable profession than in any superman. I prefer to confine the superman to the funnies. In real life he would be a menace—like Hitler, or any other dictator.

The money which it is proposed to spend under the direction of one man for medical education could do very many things to advance medicine and medical care by free medicine, if the government is anxious to spend such a sum each year. For instance, it would provide these possibilities:

- 1. Assume the total costs of operating 66 accredited medical colleges in the United States \$21,491,248
- 2. Subsidize 22,000 medical students to the extent of \$700 per year for a period of four years
- riod of four years 15,400,000 3. Spend for other research each year 11,108,752

\$48,000,000

Or, put another way:

1. Duplicate all existing medical teach-
ing facilities \$22,000,000
2. Pay 20,000 additional medical stu-
dents \$700 per year during the pe-
riod of training 14,000,000
3. Otherwise spend 12,000,000

Personally, I look upon the profession of medicine as a ministry. I believe that many men are called to it as other men are called to be clergymen, preachers, or priests or whatever we call the ministers of the Church. There are bad eggs in both baskets, it is true; but both kinds of service to humanity are motivated by the highest ideals, under the fine concept of the sanctity of human personality and with continuing progress in learning and proficiency.

Better and better medical care has continuously and more widely been distributed, and made more generally available. Many of the formerly fatal diseases have been conquered; and most of the more dangerous and deadly of the other diseases have been or are being brought under control, all under the free, American system by which all our scientific victories have been won. Think of the sulfa drugs, penicillin, vitamins, etc. All the result of free medical and chemical research.

We must, of course, give medical care to those who cannot afford it. We should make such hospitals as Grady Hospital here, and others like it elsewhere, real, well equipped and well staffed institutions, sufficient for the needs of the indigent. But there is no need of and no point in putting all of us on an institutionalized basis, either patients or physicians.

Let us keep medicine unshackled, as free as religion, the press and honest speech.

Let us preserve the personal relationship between doctors and patients which now contributes so largely towards recovery and healing.

Allow me to inject a personal note. I was desperately hurt, 200 miles from Atlanta, and taken to a small hospital near the scene of the accident and given splendid service.

WSB put the story on the air within minutes, and my personal physician here in Atlanta obtained the best brain specialist available and they immediately drove that 200 miles to make sure that everything needful was done for me, and drove 200 miles back to Atlanta.

Money—fees—schedules—cannot buy such service as that—nor could any system of security administration guarantee such kindness and personal consideration.

But it wasn't social security, you see. It was the physician's oath and creed put into practice, for medicine can serve with the heart as well as with skill. Leave it free to do so!

Public Opinion Regarding Wagner-Murray Bill—In commenting on the bill the editor of the Mc-Keesport (Pa.) Daily News states the case succinctly:

It would place the doctors under political control and provide for the mass of the people physicians who are politically amenable rather than those with superior abilities and skills. And would deaden one of the mostly highly regarded professions the world has ever known. . . Success of bill 1161 and the destruction of the freedom of American medicine would be the comeon for other broader, more revolutionary schemes to circumscribe the American people.

The periodical America says, in a statement by one of its editors:

Now, will public regimentation of health servants operate to preserve the profession and thus ultimately help to preserve the body politic? It seems that such action—as, for example, that contemplated in Senate Bill 1161—would create a new class of political doctors. And in America political classes are commonly subject to the influence of political practice, in seeking emoluments and avoiding burdens, unless we take the rare case of the unusually elevated individual. The system as it works does not raise personal ideals. But doctors without high personal ideals are a menace, both to the patient and to the public.

An editorial in the Middletown (Ohio) News Signal says:

The Wagner bill will be considerably modified, but some of its worst features may become law unless it is seen in its true light. It is part of a program, now well advanced, to enslave the individual to the state. In this process he gradually loses his adult self reliance, lapses toward infancy and then degenerates into a willing slave of government.—J. Florida M. A., Nov. '43.

COMMITTEE CONTRIBUTIONS

PUBLIC RELATIONS

B. F. Austin, Chairman Montgomery, Ala.

THE WAGNER-MURRAY-DINGELL BILL

A Statement by the Council on Medical Service and Public Relations of the American Medical Association

The legislation introduced in the United States Senate, June 3, 1943 by Senator Wagner and Senator Murray as S. 1161 and in the House of Representatives by Congressman Dingell as H. R. 2861 proposes radical amendments to the Social Security Act. Others have characterized it as "fantastic in scope, idealistic in objective and extremely expensive in its economic aspect."

The Council reserves judgment on the amendments proposed that are not directly concerned with medical care. Concern must be expressed, however, over the effect on the health of the people of that part of the legislation that undertakes to create a federally controlled system of compulsory sickness insurance to include an estimated 110,000,000 wage earners, self-employed persons and the dependents of both classes. Such a system would be created by section 11, which proposes to amend title IX of the Social Security Act to provide "Federal Medical, Hospitalization, and Related Benefits."

By a revolutionary process, the enactment of section 11 would undermine and destroy the American system of medicine that has developed in an evolutionary, healthful manner over the entire period of the history of medicine in the United States.

American medicine has developed an unexcelled quality of medical education. The enactment of section 11 would break down our system of medical education. It would remove the incentive that stimulates the student to acquire the best medical education obtainable by offering that student a regimented practice, federally supervised and controlled. This result the sponsors of the legislation inferentially apprehend by including a provision for federal grants-inaid to stimulate medical education.

American medicine has made available to the people an unexcelled quality of medical care. The enactment of section 11 would attenuate the quality of medical care available to the people by imposing on physicians conditions of practice under which good medical care could not possibly be rendered. Medical practice would deteriorate from a highly personalized professional service to an impersonal, regimented service.

American medicine has produced unexcelled medical research by individuals. The enactment of section 11 would lessen the incentive for individual medical research by making it impossible for the results of that research to be utilized to their fullest extent. This result the sponsors of the legislation inferentially apprehend by providing for federal grants to nonprofit institutions and agencies to encourage and promote research.

American medicine has been responsible for a state of health of the people unexcelled in any other country. The enactment of section 11 would result in a deterioration of the health of the people, for if medical education suffers, if the quality of medical care available to the people becomes attenuated, if the incentive to individual medical research is removed, the resulting harmful effect on the health of the people will be inescapable.

WHAT DOES SECTION 11 PROPOSE?

Section 11 proposes to amend title IX of the Social Security Act to provide general medical, special medical, laboratory and hospitalization benefits to every person currently insured under the act, to the wives and children of such persons and to certain other groups who may voluntarily bring themselves within the coverage of the act.

To provide these benefits, the Surgeon General of the United States Public Health Service would be authorized to make all necessary arrangements. He would, in effect, become the autocrat of American medicine. Although every physician legally qualified by a state may, if he consents to regimentation, participate in this compulsory health insurance scheme, the Surgeon

General may by regulation prescribe the conditions of participation. He too would be authorized to determine what compensation the participating physicians may receive and would have the final say as to the manner in which they will be compensated, whether on the basis of fees for services rendered, on a per capita basis, on a salary basis or on any combination or modification of these bases. He would be authorized to limit the number of insured persons a particular physician may treat. He would be authorized to determine what constitutes the services of a specialist.

Ostensibly to assist the Surgeon General there will be created a National Advisory Medical and Hospital Council to be appointed by the Surgeon General, of which he will himself be chairman. This council will have no authority; it will be authorized only to "advise." While an insured individual may select, normally, from the list of participating general practitioners the physician to treat him, he will be denied that privilege if the physician's quota of patients, as established by the Surgeon General, is already filled. If he is in need of the services of a specialist, he will have no voice in the selection of that specialist. The Surgeon General may arbitrarily assign an insured person to a particular physician if such person does not make his own selection.

The bill provides that in each area the provision of general medical benefit for all insured persons shall be a "collective responsibility of all qualified general practitioners in the area who have undertaken to furnish such benefit." The significance of this provision is difficult to determine. It may signify that each participating physician will be responsible for the quality of medical service rendered by every other participating physician in that particular area.

The Surgeon General would be authorized to determine what hospitals may participate in the scheme. Hospital benefits will range from \$3 to \$6 for each day of hospitalization, not in excess of thirty days, as determined by the Surgeon General with the approval of the Social Security Board. The rates will range from \$1.50 to \$4 for each day of hospitalization over thirty but not exceeding ninety. If the insured is placed in an institution for the care of the "chronic sick" the

rate will range from \$1.50 to \$3 a day. Instead of making such payments to the insured individual, the Surgeon General, subject to the approval of the Social Security Board, may make contracts with participating hospitals for the payment of the reasonable cost of hospital service at rates neither less than the minimum nor more than the maximum rates specified, such payment to be full reimbursement for the cost of essential hospital services, including the use of ward or other least expensive facilities compatible with the proper care of the patient.

Insured persons will also be entitled to certain laboratory and other benefits, the nature and extent of which will be determined by the Surgeon General but which will include chemical, bacteriologic, pathologic, diagnostic and therapeutic x-ray and related laboratory services, physical therapy, special appliances prescribed by physicians, and eye glasses prescribed by a physician or other legally qualified practitioner.

TAXES TO PROVIDE BENEFITS

To finance the provisions of this bill, each included employer will be taxed annually at the rate of 6 per cent of his payroll, excluding all remuneration paid to an employee in excess of \$3,000 a year, and each insured employee will be taxed 6 per cent annually of the wages received up to \$3,000. Self-employed persons will be required to pay 7 per cent of the market value of their services annually up to \$3,000. States and political subdivisions and their employees will be taxed at the rate of 3.5 per cent up to \$3,000 if such governmental units voluntarily, by compacts, come within the coverage of the Social Security Act.

Of this total tax a certain amount will be credited to a "Medical Care and Hospitalization Account," an amount estimated as in excess of \$3,000,000,000 annually.

GRANTS-IN-AID

Section 12 of the bill, as previously indicated, provides grants-in-aid as a stimulus for medical education, research and for the prevention of disease and disability, in apparent recognition that the enactment of the bill will require such a stimulus. The Surgeon General of the Public Health Service will determine who will be the recipients of such grants and the specific amounts that will be granted. He will determine too

whether a particular project is worthy of stimulation.

The enactment of this bill will destroy the private practice of medicine. It will create a political system of medicine dictated by a federal bureaucracy. It will lower the high health level of the people of the United States. Its enactment should be vigorously opposed.

COUNCIL ON MEDICAL SERVICE AND PUB-LIC RELATIONS OF THE AMERICAN MEDICAL ASSOCIATION

A STATEMENT OF GENERAL POLICIES

Pursuant to carrying out the duties imposed on it by the House of Delegates, the Council has adopted the following general policies:

1. The Council on Medical Service and Public Relations recognizes the desirability of widespread distribution of the benefits of medical science; it encourages evolution in the methods of administering medical care, subject to the basic principles necessary to the maintenance of scientific standards and the quality of the service rendered.

It is not in the public interest that the removal of economic barriers to medical science should be utilized as a subterfuge to overturn the whole order of medical practice. Removal of economic barriers should be an object in itself.

It is in the public interest that the standards of medical education be constantly raised, that medical research be constantly increased and that graduate and postgraduate medical education be energetically developed. Curative medicine, preventive medicine, public health medicine, research medicine, and medical education, all are indispensable factors in promoting the health, comfort and happiness of the nation.

2. The Council through its executive committee and secretary shall analyze proposed legislation affecting medical service. Its officers are instructed to provide advice to the various state medical organizations as well as to legislative committees concerning the effects of the proposed legislation. It shall likewise be the duty of its officers to offer constructive suggestions to bureaus and legislative committees on the subject of medical service.

- 3. The Council approves the principle of voluntary hospital insurance programs but disapproves the inclusion of medical services in those contracts for the reasons adopted by the House of Delegates at the 1943 meeting.
- 4. The Council approves voluntary prepayment medical service under the control of state and county medical societies in accordance with the principles adopted by the House of Delegates in 1938. The medical profession has always been very much opposed to compulsory health insurance because (1) it does not reach the unemployed class, (2) it results in a bureaucratic control of medicine, and interposes a third party between the physician and the patient, (3) it results in mass medicine which is neither art nor science, (4) it is inordinately expensive, and (5) regulations, red tape and interference render good medical care impossible Propaganda to the contrary notwithstanding, organized medicine in general, and the American Medical Association in particular have never opposed group medicine, prepayment or non-prepayment, as such. The American Medical Association and the medical profession as a whole have opposed any scheme which on the face of it renders good medical care impossible. That group medicine has not been opposed as such is evidenced by the fact that there are many groups operating in the United States which have the approval of the medical profession, and members of these groups are and have been officials in the national and state medical organizations. That group medicine is the Utopia for the whole population, however, is not probable. It may be and possibly is the answer for certain communities and certain industrial groups if the medical groups are so organized and operated as to deliver good medical care.
- 5. The Council believes that many emergency measures now in force should cease following the end of hostilities.
- 6. The Council believes that the medical profession should attempt to establish the most cordial relationships possible with allied professions.
- 7. There is no official affiliation between the American Medical Association and the National Physicians Committee. However, since it is the purpose of the National Physicians Committee to enlighten the public

concerning contributions which American medicine has made and is making in behalf of the individual and the nation as a whole, it is the opinion of the Council that the medical profession may well support the activities of the National Physicians Committee and other organizations of like aims.

8. American medicine and this Council owe a responsibility to our colleagues who are making personal sacrifices to answer the call of the armed forces. Therefore, the Council expresses the desire to cooperate with the medical committee on post-war planning in order to assist our colleagues in reestablishing themselves in the practice of medicine, and in the preservation of the American system of medicine.

COMMITTEE ON ACCIDENTS AND INDUSTRIAL HYGIENE

C. H. Ford, Chairman Birmingham, Ala.

STANDING ORDERS FOR NURSES IN INDUSTRY

For some time the medical and nursing professions have been concerned about the employment of nurses in industry without adequate medical supervision. The Council on Industrial Health has therefore been requested to formulate standing orders for industrial nurses which can be adapted to meet the requirements of individual industrial medical departments. If no responsible industrial medical authority exists, it is recommended that the nurse request helpful instruction in this regard from the committee on industrial health of the appropriate county or state medical society.

GENERAL RELATIONSHIPS

Standing orders represent a preliminary understanding between physician and assisting personnel about routine conduct of a medical service. In establishing such orders in an industrial medical department, several considerations need to be borne in mind:

- 1. The greater the amount of personal supervision exercised by the physician directly in the industrial environment, the better is the industrial health service.
- 2. Standing orders cannot be written to meet every situation likely to arise in industry. They must be modified to meet specific

requirements and in accordance with the training and professional competence of the assisting personnel. They should be signed by the supervising medical authority and posted prominently in the medical department.

- 3. The nurse in industry should assume no responsibility for service outside the field of her professional training. This applies particularly to individual case management, from which the nurse should rigidly abstain except:
- (a) In emergencies demanding immediate independent judgment and action.
- (b) Procedures of preliminary or first aid nature routinely required by reason of the nature of the work and which are clearly stipulated in the standing orders.

This statement confines itself mainly to these last named aspects of mediconursing relations in industry. Additional reports on other functions of industrial nurses will follow as needed.

EMERGENCY PROCEDURE IN INDUSTRY

General principles which operate in all emergency situations apply to industry as well. They are:

- 1. Call a physician immediately.
- 2. Stop bleeding.
- 3. Restore breathing.
- 4. Prevent shock and infection.
- 5. Do no more than is actually needed.

The supervising physician should assure himself that these instructions are thoroughly understood and should institute special training when necessary. Nurses in industry should qualify as first aid instructors.

Emergency Supplies.—Emergency packs with essential sterile supplies should be available at all times in the medical department and in first aid kits suitably located throughout the plant. Regular inspection is necessary.

Hemorrhage.—Bleeding calls for immediate attention. The nurse should notify the physician and, until he arrives, proceed as follows:

- 1. Expose the wound.
- 2. Remove obvious foreign matter.
- 3. Apply pressure.

Direct manual or bandage pressure firmly applied over sterile gauze packing at the bleeding site will effectively control moderate hemorrhage. Indirect compression is indicated in excessive bleeding not controll-

able by direct methods. Digital compression over the vessel against underlying structures either adjacent to the wound or at the nearest pressure point will usually suffice until the physician arrives. Indirect pressure should be applied proximal or distal to the wound, in keeping with the arterial or venous character of the bleeding. Hemostats or clamps should be applied whenever the emergency warrants it.

Avoid applying a tourniquet if possible. If severe bleeding in an extremity suggests the use of a tourniquet, apply a blood pressure cuff.

The nurse should remember that:

- 1. A direct pressure bandage should not act as a tourniquet.
- 2. A tourniquet must be periodically released at least every fifteen minutes.
- 3. No dressing should be applied over a tourniquet.
- 4. Asepsis must be observed at all times. Asphyxia.—Cessation of breathing from any cause demands:
- 1. Artificial respiration at once and at the site of the accident.
 - 2. Notification of the physician.
- 3. Maintenance of body warmth. Avoid excessive heating.

All industrial nurses should demonstrate ability to apply artificial respiration by the prone pressure method and should realize the need for its continuous application until breathing is restored or until careful repeated medical examination advises otherwise.

Shock.—Early and adequate shock treatment is life saving. Do not delay.

Common symptoms of shock following injury are pallor, perspiration and rapid thready pulse. Emergency management by the nurse should include:

- 1. Notification of the physician.
- 2. Removal of cause. If shock is due to hemorrhage, control it. If it is due to trauma not associated with bleeding, all active treatment of injury should be deferred until shock management has been instituted. Wounds should be covered with sterile dressings to prevent infection.
- 3. Relief of pain: 1/6 to 1/4 grain (0.010 to 0.016 Gm.) of morphine sulfate, repeated if necessary, or barbiturates as routinely ordered except in injuries to the head or trunk.

4. Keeping the patient warm, dry, and on his back with his head low. Avoid overheating.

ROUTINE NURSING CARE OF INJURIES

Successful medical management of industrial injuries depends on:

- 1. Prompt treatment.
- 2. Meticulous cleansing and dressing.
- 3. Examination of deep as well as of superficial structures.

To accomplish these aims the routine functions of the nurse should be confined to care of minor wounds as follows:

- 1. Protect wound with sterile gauze while adjacent area is cleansed with soap and water or solvent.
- 2. Discard protective dressing and clean wound margins.
- 3. Irrigate wound with sterile water or isotonic solution of sodium chloride.
 - 4. Apply antiseptic of physician's choice.
- 5. Apply dry sterile dressing, interfering as little as possible with function. Sterile dressings should be covered with protective material for use at work. The worker should be instructed not to remove the dressing but to return to the medical department if it becomes loosened or uncomfortable.

The nurse should do no more than is actually needed. The following conditions require direct medical supervision:

- 1. Wounds requiring debridement.
- 2. Those with obvious or suspected involvement of deep structures.
- 3. Wounds with edges which do not approximate.
 - 4. Wounds about the head and face.
- 5. Contaminated wounds requiring tetanus prophylaxis.

Management of Common Injuries.—Injuries most likely to be encountered in industry include the following conditions:

- 1. Abrasions: Clean and apply dry dressing. Extensive or deep loss of skin, especially about the fingers and hands, needs medical attention.
- 2. Contusions: Treat with cold compresses directly following injury, later with moist heat. If soreness or disability persists or if deep involvement is suspected, refer to the physician.
- 3. Lacerations: Clean and apply dressing as directed. Any possibility of injury to joints, nerves or tendons should be brought to the physician's attention at once.

4. Puncture Wounds: Puncture wounds through the skin need direct medical supervision to avoid or treat severe infection. If superficial, clean and apply sterile dressing.

5. Slivers and Splinters: Penetration through the skin by slivers or splinters always carries the risk of an infected puncture wound and should be treated as such. Those lodged superficially and easily removed without added trauma or incision may be extracted aseptically by the nurse.

6. Burns and Scalds: Clean minor burns with soap and water. Apply petrolatum or 5 per cent boric acid ointment, bandaging firmly without interfering with function. Leave blisters alone.

In all other cases:

(a) Notify the physician.

(b) Cover the burned area with a sterile dressing or sheet moistened with isotonic solution of sodium chloride or 5 per cent sodium bicarbonate solution.

(c) Combat pain and shock.

In the absence of specific orders, chemical burns should be treated by irrigation or immersion in water for at least twenty minutes and then by dressing.

7. Sprains and Strains: Treat first with cold compresses, elevation of the part and rest. A physician's advice is necessary regarding strapping, other methods of support or fixation, further examination or special therapy.

FRACTURES

Preliminary steps for the nurse are:

1. Call a physician at once.

2. Keep the patient quiet and warm.

3. Immobilize before any movement is attempted.

4. Do not attempt reduction.

5. If the fracture is compounded, cover the site of the fracture with a dry sterile dressing. Do not cleanse or reduce.

Special instruction in splinting should be provided every industrial nurse.

EYE INJURIES

Rigid aseptic technic must be scrupulously observed in all eye conditions. Never attend consecutive patients without sterilization of instruments and careful hand washing. Remember that early symptoms of infection simulate foreign body.

Minor Burns.—Do not apply ointments to minor burns of the skin about the eye. Ap-

ply a sterile dressing and refer to the physician.

Burns of the Eye.—1. Chemical Burns: Irrigate chemical burns of the eye copiously and at once with water, preferably by immersion. Neutralizing solutions are usually inadequate or unavailable. The rapidity with which the irrigation occurs is more important than the type of solution used. Continue to irrigate at least twenty minutes by the clock.

2. Hot Metal Burns: Apply a sterile pad and refer at once to the physician. Do not irrigate. An anesthetic should be applied as ordered by the doctor.

Every burn of the eye should receive competent medical attention early.

Foreign Bodies.—The nurse should attempt to remove only those foreign bodies of the eye which can be readily located and which can be easily washed out or removed with a dry sterile cotton applicator. An antiseptic may be applied if the physician so orders

Direct medical care is essential:

- 1. If the foreign body cannot readily be located. Stains to aid in the location of foreign bodies should be used only on specific medical order.
- 2. If removal requires any instrumentation.
- 3. If irritation or pain persists after removal.

No person with an eye injury should be discharged without examination by a physician

"Flash" In jury.—First aid treatment should include:

- 1. Local anesthetic as ordered.
- 2. Cold compresses.
- 3. Sedatives.

Persistent pain following flash needs medical examination and treatment.

Conjunctivitis.—Conjunctivitis or other forms of conjunctival irritation should be referred routinely to the physician or ophthalmologist.

HEAD INJURIES

Until the physician takes over, the nurse should:

- 1. Keep the patient lying down.
- 2. Elevate the head.
- 3. Apply ice cap or cold compress. No sedatives.

4. Record pulse and respiration every ten minutes.

Clip or shave and cleanse areas adjacent to scalp lacerations, and cover with a sterile pad.

CHEST AND ABDOMINAL INJURIES

Contusions of the chest and abdomen with or without external evidence of injury may result in trauma to underlying organs.

Until seen by the physician, such patients must be:

- 1. Kept warm and quiet.
- 2. Allowed no sedatives.
- 3. Have pulse, temperature and respiration recorded frequently.
- 4. Suitably bandaged to avoid contamina-

In case of abdominal injury give nothing by mouth.

NONOCCUPATIONAL ILLNESS

Treatment of injury or illness which has no relation to occupation is not a function of the industrial medical department except:

1. First aid for emergency sickness. Such measures as the situation demands must be taken until notification of the family physician discharges responsibility.

2. For minor ailments which temporarily interfere with an employee's comfort or ability to complete a shift and for the relief of which a physician would not ordinarily be consulted.

In all relationships of this kind, judgment and tact are required of the industrial nurse. Several principles apply:

- 1. Before giving any treatment, the temperature, pulse, general appearance and a history of the presenting complaint should be recorded.
- 2. Palliative treatment, especially for chronic or recurring disorders, should not be repeated.

Every properly trained nurse understands the difference between attention of this kind and systematic treatment.

CARE OF MINOR ILLNESS AND SYMPTOMS

Persistent or augmenting symptoms of irritation, discomfort or disability suggest faulty work environment. The nurse should not hesitate to ask for medical examination of workers and of the premises.

Fever.—A rise in temperature of 1 degree suggests medical consultation before work is

resumed. Findings should be checked by repeated thermometer recordings.

Headache.—Record temperature. If headache is accompanied by dizziness, nausea, vomiting, stiff neck, injury, history of recurrence, fever, general malaise or other symptoms the patient needs medical attention. If not, give an analgesic as ordered by the physician.

Remember that headache or dizziness may be premonitory signs of intoxication.

Unconsciousness.—1. Fainting. Usual symptoms are pallor, with shallow breathing, slow and weak pulse. Period of unconsciousness is of short duration.

Keep the patient lying down with head lowered until fully recovered. Be sure the patient has plenty of fresh air. Clothing should be loosened and stimulating inhalants used, such as ammonia or smelling salts.

2. Other causes. If other signs are present or if unconsciousness persists longer than a few minutes, call for medical assistance. Give nothing by mouth.

Toothache.—If there is a cavity, the nurse may pack it with cotton dipped in oil of cloves for temporary relief. For further examination and treatment refer to a dentist.

Nosebleed.—Spontaneous nosebleed may be treated by cold packs or pinching the sides of the nose against the septum. Keep the patient sitting erect or standing and loosen the collar if it tends to constrict the neck. Advise the patient not to breathe or blow through the nose for an hour or two after bleeding has stopped.

Bear in mind that certain occupational exposures are manifested by nasal damage and bleeding.

Sore Throat.—Patients with sore throat may be given a hot saline gargle if they have a normal temperature. Do not "paint" the throat. Any persistent sore throat or one associated with fever needs medical care at home.

Respiratory Irritation or Infection.—Repeated or persistent signs of bronchial or chest irritation without associated infection suggests an unfavorable occupational exposure. A plant hygiene survey is indicated.

Persons having acute respiratory infections with elevated temperature, cough, sneezing or nasal discharge should be sent home for proper segregation, rest and medical attention. In mild infections, work may

be continued if under medical or nursing supervision simple measures will control symptoms and prevent spread.

Available medical evidence at the present time cannot support routine administration of cold vaccines or vitamin preparations as methods of reducing the incidence or severity of acute respiratory infections.

Frequent colds or chronic respiratory conditions require special medical consideration

Abdominal Distress.—Early signs of occupational intoxication may be abdominal in character. In any case abdominal distress, nausea or pain, especially if severe or persistent, requires competent medical diagnosis and management.

Laxatives should never be dispensed from an industrial medical department.

Dysmenorrhea.—Painful menstruation not associated with fever or gastrointestinal disturbances may be treated with an analgesic ordered by the physician and the patient placed at rest with heat to the lower part of the abdomen. If there is no relief or if other signs or symptoms present themselves, she should be referred to her physician.

Patients with recurrent severe dysmenorrhea should not be given palliative treatment. They should be referred for examination and treatment.

DERMATITIS

Management of skin disorders in industry depends on cause.

Specific Irritants.—Materials or processes in the plant capable of causing skin disease should be identified and special orders provided for control. Competent dermatologic consultation is essential in all obscure or refractory situations.

Nonspecific Skin Disease.—Nonspecific skin irritation in industry is almost entirely assignable to faulty personal hygiene. The nurse can do much to improve washing routine, the use of dependable protective coverings, the wearing of clean work clothing, maintenance of satisfactory housekeeping in the plant and the general maintenance of accepted hygienic procedure.

PREGNANCY

A definite policy regarding employment during pregnancy should embrace the following recommendations:

1. The employee should notify the proper

authority in industry about her pregnancy within the first trimester.

- 2. She should obtain a statement from her own physician—
 - (a) That her work is not contraindicated.
- (b) Regarding the length of time she should work.
- 3. Special attention should be given to the nature of the work. Pulling, pushing and lifting must be kept within safe limits. Rest periods will tend to minimize emotional and physical instabilty during pregnancy.
- 4. Ordinarily work should terminate by the thirty-second week (within six weeks of term). If contraindications arise within this period, the employment should stop.
- 5. Return to work is inadvisable before six weeks after delivery and then only on notification of the employer by the physician.

EQUIPMENT AND SUPPLIES

Space which can command privacy and which can be kept clean and properly prepared for emergency and routine services by the nurse should be provided in the plant. Special attention should be given to heating, light, ventilation and accessibility.

Furnishings and Supplies

General Furnishings:

- 1. Sink
- 2. Instrument cabinet
- 3. Sterillizer
- 4. Dressing table
- 5. Leg rest
- 6. Cot
- 7. Stretcher
- 8. Mirror 10 by 12
- inches

Instruments and Supplies:

- 1. Scalpels
- 2. Splinter forceps
- 3. Tissue forceps4. Hemostatic
- forceps
- 5. Bandage scissors
- 6. Surgical scissors
- 7. Hand magnifying glass
- 8. Syringes
- 9. Assorted hypodermic needles
- 10. Assorted sur-
- geons' needles 11. Needle holder

- 12. Assorted
- bandages

9. Foot-pedal

waste can

11. Storage cabinets

13. Adhesive rack

14. Record file

15. Scale

12. Paper towel rack

10. Waste basket

- 13. Adhesive plaster
- 14. Cotton
- 15. Applicators
- 16. Assorted sutures
- 17. Assorted splints
- 18. Assorted jars and basins
- 19. Test tubes
- 20. Safety razor and blades
- 21. Hot water bottle
- 22. Ice cap
- 23. Crutches
- 24. Tourniquet

Drugs: (as ordered by the physician or medical adviser)

- 1. A stimulant
- 2. An emetic
- 3. Analgesics and sedatives
- 4. Antiseptics

The accompanying check list of furnishings and supplies suitable for a small plant dispensary should be augmented by equipment for emergency treatment or other special medical requirements as ordered by the plant physician or other medical adviser.

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- (g) Recognition and Prevention of Industrial Dermatitis.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

INFLUENZA

Soon after the war clouds began gathering in Europe, health authorities predicted that, should a general war come, the participating nations would experience one of the most devastating influenza epidemics the world has ever known. Some of them even expressed the fear that the outbreak would not be limited to the combatant nations but would envelop practically the entire world. The heart-breaking experiences of 1918 and 1919 were to be repeated in worse form, we were told.

Among the many prophets of dreadful things to come in the way of influenza disability and death was the editor of The Journal of the American Medical Association, who declared in an editorial in September, 1941 that whenever man seeks to destroy himself nature cynically stands ready to help in the work of self-destruction. Another pandemic of influenza similar to that which the world remembers from the days of the first World War might well be expected in connection with the present conflict he wrote, quoting Dr. Thomas M. Rivers, of the Rockefeller Institute.

It began to look as though this and other prophesies of a similar nature were about to come true in the final weeks of 1940 and the opening weeks of 1941. From, then peaceful, Hawaii came reports of a sudden, sharp increase in the number of influenza cases. Shortly afterward it became evident that this American outpost was in the grip of a serious epidemic. A few weeks later there was an outbreak in California. Then the tide of contagion began moving overland. It reached this State almost simultaneously with the new year (1941) and reached its peak about a fortnight later with the reporting of 8,622 cases during a single week. The total for the entire month of January was 19,193, or more than that for any entire year between 1937 and 1940, inclusive. About the time Alabama was just beginning to feel its effects, newspapers in all parts of the country published an Associated Press article by Howard W. Blakeslee which began with this prophetic sentence: "Next stop of the flu epidemic is Europe." It continued:

"England stands first on the European receiving end because American war support is probably sending more human flu carriers there than to other countries. All western Europe, however, is exposed to catching America's flu, especially Portugal, landing point of the clippers."

During the same month in which Mr. Blakeslee's article appeared, Associated Press newspapers published another article based upon an interview with Dr. David T. Smith, Professor of Bacteriology at Duke University. In it this well known authority predicted that the epidemic then under way in this country would develop into a worldwide epidemic, "possibly becoming the arbiter of the war."

"He said the current wave was mild, that it would continue to spread eastward to Europe with about 50 per cent of the population contracting it, and then it would die down for a time," the Associated Press writer declared. "But in the fall there will be a virulent burst of cases throughout the world, said Dr. Smith, and the number of deaths will be high. Thereafter the pandemic will taper off over a period of several years in small, recurrent waves. Such may be expected, the doctor commented, if influenza follows its familiar pattern."

Fortunately, that particular epidemic did not follow its familiar pattern. At least it did not do what the editor of the Journal of the American Medical Association, Dr. Smith and the others predicted it would do. Although health conditions in warring nations of Europe come under the heading of military secrets, we know enough about them to be sure that the anticipated continent-wide outbreak failed to materialize. What is particularly important to us is that it failed to materialize in this country. Alabama cases reported last year were less than one-fourth as many as were reported in 1941, fewer by some four thousand than were reported in 1940, and less than one-half as many as were reported in 1939.

The danger is not yet over of course. It is too early to jump to the comfortable conclusion that the second World War will not bring a repetition of the influenza disability and deaths which came in the wake of the first World War. About all we dare say at this time—and we say that with our fingers crossed—is "so far, so good." But we can say that and mean it.

About the only unfavorable aspect of the absence of a wartime influenza epidemic thus far is that it has prevented scientists from making a thoroughgoing test of the effectiveness of the influenza vaccine discovered in the fall of 1939 by members of

the Rockefeller Foundation staff. Characteristically, the Rockefeller Foundation has made no extravagant claims for it and has been insisting that it has not yet had time to demonstrate its effectiveness in curbing influenza morbidity and mortality in humans under epidemic conditions.

Until this vaccine shall have had an opportunity to demonstrate its effectiveness beyond question, the State Department of Health can only urge the people of Alabama not to expect too much of it. Meanwhile, the older and more dependable methods that have been relied upon, with varying success, in the past must continue to form the spearhead of the attack upon this disease. The individual's chief ally in this personal war of self-protection remains an intelligent knowledge regarding the disease, its manner of transmission, and the measures that need to be taken to recover from it.

It has been pretty well established that influenza is caused by filterable viruses of different strains. As in the case of cold viruses, those responsible for the transmission of this disease are present in large numbers in the discharge from the nose and mouth of a person suffering from it. When such a person coughs or sneezes, these viruses are sprayed into the air in the form of small droplets, which may be inhaled by anyone near the cougher or sneezer. These droplets may also be deposited on silverware, solid food or other articles and pass into the bodies of persons who place them in their mouths. Medical opinion is in fairly unanimous agreement that liquids like drinking water or milk do not serve as a means of transmitting this disease. Naturally, the great majority of cases are transmitted by breathing influenza-laden droplets discharged from the mouth or nose of an influenza victim.

Symptoms of influenza seldom appear within less than 24 hours after infection has taken place, and occasionally they do not do so until 72 hours after exposure. Although some of them are somewhat similar to the symptoms of an unusually bad cold, others are peculiar to this disease alone. Elevation of temperature, which may or may not be present in a cold, is almost always present in influenza. The patient also suffers from severe pains and soreness in the back, head and limbs, and these usually last for a week

or more. Whereas a person usually feels about as well as ever immediately after emerging from a successful bout with a cold, that is not true in the case of influenza. Almost any former "flu" patient will tell you how utterly exhausted the disease left him and how slowly he was able to get his normal strength back. A person who has suffered from tuberculosis as well as influenza once observed that he felt considerably weaker after a ten-day siege with "flu" than after a much longer period of hospitalization with the Great White Plague.

Contrary to a widely held opinion, influenza is not the direct result of a neglected cold. Nor is it an extreme form of cold. The viruses responsible for the two diseases are entirely different, and each form of illness is a distinct disease entity. However, this is not to say that colds do not play a part in the prevalence and mortality of influenza. As a matter of fact they do but not in the manner many people think. Colds, especially neglected colds, tend to lower the body's resistance and thus increase the danger of contracting influenza after exposure to the disease. By the same token, colds tend to increase a person's susceptibility to tuberculosis, measles, scarlet fever and numerous other forms of illness.

What has been said about the relationship between colds and influenza is not true with regard to the relationship between influenza and pneumonia. Influenza may, and often does, lead directly into pneumonia. This danger is so real that many vital statistics reports make no effort to distinguish between influenza deaths and pneumonia deaths, combining these totals under the general heading "deaths due to influenzapneumonia." Except during extremely severe epidemics, deaths due directly to uncomplicated influenza are relatively few, but as a contributor to the heavy pneumonia mortality this disease takes high rank in the mortality picture of the State and nation. Exactly how many of the 1,451 Alabamians who succumbed last year to pneumonia were indirect victims of influenza there is no way of telling. However, the percentage was unquestionably large.

Like a cold, influenza is more infectious in the early, or beginning, stage than after it has developed sufficiently to send the victim to bed. For that reason, medical authorities have revised their earlier ideas regarding the communicability of this disease. While they continue to recommend that visits to the sick be kept at a minimum, they point out that the danger of contracting the disease in that way is much less than by close association with persons who have it, but have not developed the usual symptoms and therefore do not know that they have it. Authorities also advise against the general closing of schools, theatres and similar places during an epidemic, having concluded that ordinary associations of a business and social nature bring a certain amount of exposure anyhow and that the danger is not materially increased by public assemblies. Instead of advising the public to go to extremes to avoid exposure, they urge everyone to use reasonable care in that respect while keeping the body's physical resistance at the highest level possible.

During the influenza season, and especially during an epidemic, get as much exercise as possible out in the open air, but only when the weather is favorable. Keep sleeping and working quarters well ventilated at all times, but avoid drafts. Eat according to a well balanced diet. Increase your water intake. Protect yourself against fatigue by getting plenty of rest, especially the best kind of all—sleep. Adjust your attire to the state of the weather, wearing enough clothing to keep you comfortably warm but not enough to overheat the body, especially when working indoors.

Although, as already pointed out, a cold is an entirely different form of illness from influenza, it is difficult sometimes to know definitely that you have one rather than the other. So give some thought to the possibility that your supposed cold is actually something more serious. Even if what you have is really just a cold, it is well to go to bed. If it is influenza, it is imperative that you do so, and stay there until a physician advises you that it is safe to get up. If your temperature is markedly above normal, or if you suffer from pain or soreness the chances are that what you have is really influenza.

The Chinese have a saying that "the longest voyage begins with a single step." Men of medicine know that the most devastating epidemic begins with a single case of illness. Every subsequent case is another link in the lengthening chain of sickness, invalidism and death. If the people of Alabama and the rest of the United States are to continue to enjoy relative freedom from influenza in epidemic form throughout the remainder of the war and into the happier days of peace, everyone should do his best to keep well, not only for the sake of his own health and personal efficiency but also so as not to serve as an incubator and disseminator of disease germs which may bring death and invalidism to others. Here is a responsibility for all of us.

BUREAU OF PREVENTABLE DISEASES D. G. Gill, M. D., Director

PROCEDURES IN OBTAINING STATE AID FOR CANCER PATIENTS

Beginning early in November the cancer program began to operate, and in a small way the task of caring for the indigent cases of cancer in Alabama was assumed. As with all new programs, there were certain unexpected delays, and it will probably be several months before the routine becomes standardized and operating without hitches.

The procedures to be followed in obtaining aid for a cancer patient have been sent to every physician in the State but might be repeated here:

- 1. Any licensed physician in Alabama may make application for any resident of Alabama who, in his opinion, has or may have cancer and who, in his opinion, is unable to pay for diagnosis or treatment. Application forms may be obtained from any county health department.
- 2. Each application to be approved must be signed by the Director of Public Welfare of the county in which the patient resides. This statement shows that, after investigation, the patient is found to be indigent.
- 3. The application is forwarded through the county health department to the cancer control office in Montgomery. If approved the patient is advised to report to a certain clinic at a specified day and hour. This clinic is also advised as to the patient's coming.
- 4. No transportation will be paid. Patients should always provide sufficient funds for their return from the clinic to their homes.
- 5. The clinic will examine the patient, including any x-ray or biopsy necessary, and

outline treatment. If the patient is obviously far advanced and incurable, no further action will be taken. If surgery is decided upon, the surgeon will be named and hospitalization authorized. If x-ray or radium is indicated, the roentgenologist is so advised. Treatment can *only* be given by members of the clinic group.

PREVALENCE OF COMMUNICABLE DIS-EASES IN ALABAMA

1943

			E. E.
	Sept.	Oct.	Oct.
Truboid	1.1		95
Typhoid		8	25
Typhus		97	44
Malaria		492	984
Smallpox		0	0
Measles		48	16
Scarlet fever	78	123	117
Whooping cough	45	100	67
Diphtheria	54	155	177
Influenza	65	182	83
Mumps		35	27
Poliomyelitis	3	6	9
Encephalitis	Õ	ő	ĭ
Chickenpox	ĭ	16	19
Tetanus	5	6	6
Tuberculosis		204	238
Pellagra	130	3	16
Meningitis	18	11	4
Droumenie	107		
Pneumonia	127	22 8	114
Trachoma	0	0	0
Tularemia	0	0	0
Undulant fever	8	6	6
Dengue	0	0	0
Amebic dysentery	1	0	0
Cancer	150	147	0
Rabies—Human cases	0	0	0
Positive animal heads	9	10	

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

EMERGENCY MATERNITY AND INFANT CARE IN ALABAMA

On October 1, 1943, the President of the United States approved an appropriation of \$18,600,000 for the continuation of the program of emergency maternity and infant care for the wives and babies of soldiers, the joint resolution having been passed unanimously by both the House of Representatives and the Senate. Under the terms of this new appropriation, eligibility, after October 1, 1943, is limited to wives and infants of enlisted men in the fourth, fifth, sixth and seventh pay grades.

The service is not one of charity. Congress has declared that its purpose is two-fold: to relieve the wives of enlisted men of worry as to how they can get necessary maternity care for themselves and medical care

for their sick infants; and to reassure the enlisted men themselves that their wives and infants will have this protection in their absence. This sense of security will undoubtedly increase morale on both the fighting and home fronts. There is no question in the mind of Congress as to the need and value of this service.

Alabama is receiving its share of the appropriation and is providing care for as many as possible. Each month an allotment is made to the State based on its estimate of the number of cases that may be authorized. Services are provided for care during the antepartum period, the delivery and the puerperium. Maternity care may be authorized for confinement at home, or in a hospital if one is available. Medical services are given to sick infants.

The administration of the program has been beset with difficulties, misunderstanding and misinterpretations, but has been, on the whole, very well received. There has been some confusion because physicians and hospital administrators are not able to see good reasons for certain of the policies adopted. They cannot see why physicians and hospitals must be paid fixed rates; why extra fees cannot be collected; why only ward care can be paid for; why the hospital cannot be paid regular rates instead of the actual cost of ward care; why no payment may be made for unauthorized care or for services rendered before authorization is granted; why the Government will not pay the physician if the patient pays the hospital costs; why reimbursement cannot be made to a patient for past care and expenses; why care can be purchased only in a hospital that has been inspected and approved as meeting the minimal requirements for maternity care. These and many more questions are raised, such as the troublesome but necessary "red tape" and the record keeping. These are dictated by sound administrative policy and the desire to give good care at the most reasonable cost. The State Health Department cannot alter them, nor can the Children's Bureau as they are terms on which the funds are granted.

There is also the Government's side. It was probably thought that all physicians and hospitals would cooperate and accept the plan. The physicians have been very cooperative. Though at times exasperated

at the restrictions and requirements, they are giving their services, in many cases, at less than their regular fees. Some for various reasons do not approve the program. There are those who think these wives are able to pay for this care and do not need free service. Some object because they think it is a form of socialized medicine, while others believe a refusal to render this care will advance the cause of socialized medicine. Many physicians are too busy to accept new cases, especially where hospitalization is not available and they do not wish to take patients for home confinement.

This service is denied many patients because of lack of participating hospitals. There are large sections of the State where no hospitals are available and in these counties service men's wives are denied the care the government provides them. Participation by hospitals, as by physicians, is an individual matter. Some hospital administrators ask why the Government will pay only actual ward cost and not the regular rates. The Government asks the State Health Department to explain why a nonprofit hospital specifically exempt from taxation because of its nonprofit status is not willing to accept Government cases at a rate which will cover the actual cost of rendering the service.

A ten-day stay in the hospital is not mandatory. The Children's Bureau has recommended that the length of hospital stay be determined by the condition of the patient and the availability of beds in the particular community. We recommend that when it is possible a minimum of ten days' postpartum hospitalization be provided, realizing that circumstances in many instances may make it necessary to provide hospitalization for a shorter period of time. It is hoped that arrangements for a shorter stay made necessary at this time will not become accepted as the optimum stay.

Approximately 450 physicians have expressed a willingness to cooperate for the fixed fee. Many more would participate if they could hospitalize their patients. Authorizations have been granted to 312 physicians.

There are now twenty-four hospitals participating in the program. The list is shown. Where there are no cooperating hospitals, authorization can be given only for medical

services for confinement at home. If, in these sections, hospitalization is had, the patient can receive no help from this fund. More participating hospitals are needed and more beds are required in practically all parts of the State.

From June 9, 1943 to November 15, 1943, care has been authorized for 1062 cases in 64 of our 67 counties. Most of these are, of course, where there are participating hos-

pitals.

Comparatively few Negro wives are included in this total. Most colored deliveries are attended by midwives. There are many physicians who do not attend Negro maternity cases except when answering a call from a midwife in an emergency. Under the plan, our midwives do not have the qualifications for participation.

Of the total of 1062 cases, 117 were completed as of November 12. Authorizations for medical service only were 81, hospital care only 3, and both medical and hospital

care 33.

LIST OF PARTICIPATING HOSPITALS

Andalusia	Hillcrest Infirmary
	Memorial Hospital
Anniston	Garner Hospital
	Jefferson Hospital
	Escambia Hospital
	Barber Hospital
	Cullman Hospital
	Benevolent Society Hospital
Fufaula	Saltan IIit-1
	Salter Hospital
	Speir Hospital
	Stabler Infirmary
Huntsville	Huntsville Hospital
Jasper	Peoples Hospital
	Walker County Hospital
Leeds	Walker County Hospital Clayton's Clinic
Roanoke	Knight Sanitorium
	Russellville Hospital
	Sylacauga Infirmary
	Citizens Hospital
	Druid City Hospital
	Stillman Institute
Tuskegee	John A. Andrews Mem. Hospital
Wilsonville	Shelby Clinic
York	Hill Hospital
	- AAIII AAODDIWA

BUREAU OF SANITATION T. H. Milford, M. S. in S. E., Director

PASTEURIZATION OF MILK AS DETER-MINED BY THE PHOSPHATASE TEST

Contributed by C. E. Fortenberry, B. S., Senior Sanitarian

Phosphatase is an enzyme present in raw milk. It is destroyed or inactivated when

milk is pasteurized at 143° F. for 30 minutes. The phosphatase test is a laboratory chemical determination of the degree of pasteurization of milk. The test makes application of the ability of phosphatase to hydrolyze di-sodium-phenol-phosphate with the liberation of phenol. The free phenol is then estimated colorimetrically with an indicator solution. Raw milk when subjected to the phosphatase test gives a sea blue color while properly pasteurized milk is practically colorless. The presence of any blue color is a positive indication of under-pasteurization, the addition of raw milk or other equal deficiencies.

In the September-October issue of the Journal of Milk Technology, F. W. Fabian states: "The phosphatase test is the greatest contribution to the safety of milk since the introduction of pasteurization itself. It ranks along with Babcock's fat test, the plate method, the direct microscopic method, and other similar tests for milk. It is now possible for the first time to check accurately milk pasteurization. Heretofore, we were at the mercy of the milk dealer or, even worse still, some one in his employ. If the operator got there late in the morning and wanted to make up for lost time, he could speed up the pasteurization process by any one of several ways. Unless the milk inspector was on the premises, there was no way of checking the operator. Since pasteurization is our greatest and final protection against milkborne diseases, it is highly important that we have an accurate and reliable test for it."

The phosphatase test is in use by most of the larger city and state health departments doing milk sanitation work throughout the United States. For the past two years the Alabama State Health Department Laboratories have been working on the application of the phosphatase test under the conditions of sampling in Alabama.

When the county inspector collects milk samples and sends them to one of the department's branch laboratories for bacterial analysis, the technician forwards a portion of the pasteurized samples to the Central Laboratory in Montgomery for the phosphatase test, except that the Birmingham laboratory tests its own samples. The findings are reported to the county inspector. In case of a positive test the inspector can

and should check the plant from which the sample came to determine and correct the cause of under-pasteurization.

Listed by months in the table below are the results of pasteurized milk samples collected and sent in for phosphatase test from January 1, 1943 through October 31, 1943. These samples, like all others collected for official use, were collected without previous notice to the plant. Only 72% of the samples collected during the first 10 months of this year showed complete pasteurization.

Month	No. of Samples Submitted for Phosphatase Test	No. of Samples Completely Pasteurized	% of Samples Showing Complete Pasteurization	No. of Samples Incompletely Pasteurized	No. of Samples Showing Gross Underpas- teurization	Showing Gross Underpas- teurization
Jan.	118	82	69.5	36	22	18.6
Feb.	111	81	73.0	30	17	15.3
March	120	75	62.5	45	19	15.8
April	139	90	64.7	49	10	7.2
May	73	33	45.2	40	21	28.8
June	151	110	72.8	41	25	16.6
July	100	81	81.0	19	12	12.0
Aug.	76	70	92.1	6	6	7.9
Sept.	40	35	87.5	5	4	10.0
Oct.	36	35	97.2	1	1	2.8
Total	964	692	71.8	272	137	14.2

These records are from 49 plants. Twentysix of these had one or more samples showing readings of 10, indicating raw milk or completely under-pasteurized. A total of 63 samples showed such readings. Sixteen of these 26 plants might be called farm plants since they are run in connection with a dairy farm. These 16 farm plants had 44 or 70% of the completely under-pasteurized samples, although only 30% of the total samples run were from them. Thirteen samples were collected from one small plant. Four of these had readings of 10, and only 3 of the 13 showed complete pasteurization. Ten out of 21 samples from another plant showed readings of 10. Contrast these with another plant where the capacity was far overloaded because of defense contracts, but where only 1 of 47 samples run showed slight under-pasteurization. Of the 137 samples showing readings of 5 or above indicating gross under-pasteurization, 104 or 76% were from these 26 farm plants.

Although the vats of all plants had been equipped with indicating, recording and air space thermometers at the time permits were issued, some vats have been added dur-

ing the present emergency before all required thermometers could be secured. In addition, the inspection reports on plants show an alarming frequency of one or more thermometers getting broken, frequently with intervals of several months before they are replaced. Inexperienced and seemingly completely irresponsible plant employees, particularly in plants operating considerably above normal capacity, have no doubt also contributed to the alarming frequency with which milk has been sold without proper pasteurization. The most probable causes for incomplete pasteurization in these plants are:

- 1. Starting to empty one or more vats before the full 30 minute holding period is completed. This is difficult to determine from examination of the recording thermometer charts.
- 2. Filling vats so full that the air heater cannot be operated. This will not show on the chart.
- 3. Addition of raw milk or skim milk to the vat, usually for standardization, after the holding time is begun. If much of this is added cold, it will cause a break in the temperature curve on the chart. Any rather sudden break or irregularity in the curve, however small, should be seriously questioned.
- 4. Failure to close the outlet valve after a vat is emptied and before it is again filled with raw milk, thus permitting the outlet lines to stand full of raw milk. This will not show on the recording thermometer charts.
- 5. Failure to pasteurize part of the milk at all by simply bottling it raw and placing pasteurized caps on it. This, as well as 1, 2 and 3 above are most likely to happen near the end of the day or on Sundays and holidays, when the operators hurry to finish and get away from the plant. (Monday morning is a good time to collect pasturized milk samples for this reason and because cleaning is also likely to be hurried and incomplete on Sunday.) There is reason to believe that the small farm plants are more likely to label raw milk as pasteurized since they formerly sold raw milk entirely and may be indifferent to its danger. The reason for the code requirement that the amount of milk in each vat run be entered on the recording thermometer chart is to furnish not only a check on the total amount pasteurized but

also to furnish an indication of instances where part of the milk is not pasteurized.

6. Failure to disconnect the inlet line before pasteurization is begun, permitting raw milk to leak into the vat during the holding period.

It is gratifying to note from the table above that the percentage of samples show-

ing complete pasteurization during the last 3 months was considerably higher than for the first 7 months of the year. However, no inspector or plant operator should be satisfied until every bottle of milk bearing a pasteurized label will reveal complete pasteurization when subjected to the phosphatase test.

AMERICAN MEDICAL ASSOCIATION NEWS

STUDY SHOWS BRIGHTER OUTLOOK FOR VICTIMS OF ANGINA PECTORIS

THREE DOCTORS FIND LIFE EXPECTANCY AFTER DISEASE FIRST APPEARS IS ABOUT TWICE AS LONG AS HAS BEEN COMMONLY BELIEVED

The life expectancy after angina pectoris first appears is about twice as long as has been commonly believed, Paul D. White, M. D.; Edward F. Bland, M. D., Boston, and Edward W. Miskall, M. D., East Liverpool, Ohio, report in The Journal of the American Medical Association for November 27. This statement is based on what is, so far as they know, the first study of this condition that involved a large series of cases followed over an adequate length of time.

The three physicians made a follow-up study in 1943 of 497 cases of angina pectoris that were first observed in the years from 1920 to 1930. Of the 497 patients, they say, "445 are dead and 52 are still living. The average duration to death of the 445 was 7.9 years, while the average duration from onset of the disease in the living is 18.4 years. The average duration to date for the combined dead and living is 9.0 years, which will ultimately increase when all the present survivors succumb, doubtless to a figure approximating ten years, a duration of life about double that at present widely regarded as the expectation of life after angina pectoris first appears (five years or less). Seventy-six per cent of the deaths were due to cardiac causes. . . A pronounced degree of nervous sensibility was a favorable influence (in survival). Angina pectoris decubitus (an attack coming on while at rest in contrast with one during or immediately following effort) was found in 103 (20.6 per cent) of the 497 cases. There were no significant differences in the average duration of the disease to death or in the living between

this group and that of the group as a whole. . . ."

The three men point out that it is not only helpful for the doctor to know something of the average life expectation in general in angina pectoris but also "for the patient himself and for his family, rather than to leave merely the impression that prediction is impossible and that the Sword of Damocles may fall at any moment. Such a state of affairs is for many persons so paralyzing that they are prone to sit for many years awaiting the end, unable to carry on a useful or happy life, or else, hardened by the thought, they may lead a reckless existence which can in truth hasten their end.

SAYS ARTICLE IN READER'S DIGEST ON ARTHRITIS RAISES FALSE HOPES

CLINICAL EVIDENCE DOES NOT WARRANT CLAIMS MADE FOR THE TREATMENT OF THE DISEASE, JOURNAL OF THE A. M. A. DECLARES

"Those who attempt education of the public in matters of health and disease have a serious responsibility; they do incalculable harm when they mislead the public," The Journal of the American Medical Association for November 27 declares in commenting on an article in the Reader's Digest for November titled "Hope for the Victims of Arthritis." As is pointed out by The Journal, there appears in the same issue a letter from Ralph H. Boots, M. D., New York, who says the article, written by Paul de Kruif, Ph.D., "might better have been called 'False Hope for the Victims of Arthritis.'"

Dr. Boots points out that both he and R. H. Freyberg, M. D., are referred to in the article and says that "Dr. de Kruif did not ask either Dr. Freyberg's or my opinion regarding our results. . ."

His position in regard to the article in Reader's Digest is similar to that of The Journal which says:

"In 1937 the Council on Pharmacy and Chemistry of the American Medical Association indicated that a product called Ertron, which is a capsule containing some 50,-000 U.S. P. units of vitamin D, was not acceptable for New and Nonofficial Remedies. The flamboyant advertising then used for the product was condemned. The Council also said that there was no proof that such large doses of vitamin D are not toxic and it concluded 'Critical examination of the reports on the value of vitamin D in the treatment of chronic arthritis reveals little to warrant the belief that the beneficial effects claimed are specific.' In the years that have passed, other discussions of the use of massive doses of vitamin D in the treatment of arthritis have been published, including a symposium on the subject before the American Rheumatism Association in June 1942 and a paper by Dr. R. H. Freyberg of the University of Michigan in The Journal. Dr. Freyberg found the results of the use of such preparations unimpressive. The consensus of the symposium before the American Rheumatism Association was likewise far more negative than favorable to the use of this preparation. In New and Nonofficial Remedies, 1943, the Council summarized the evidence available to the date of publication in the following sentence: 'Clinical evidence does not warrant the claim that massive doses of vitamin D are of benefit in chronic arthritis. . ." Nevertheless de Kruif in an article in the Reader's Digest for November conveys to its readers his extraordinary enthusiasm regarding this technic. Apparently the article stimulated hundreds of persons with arthritis to approach their physicians and to request a change from the methods of treatment which were being followed to the use of such preparations. Many of these physicians report that they have received from one hundred to three hundred requests either directly or in writing. Those who attempt education of the public in matters of health and disease have a serious responsibility; they do incalculable harm when they mislead the public."

ADVISE BRAIN OPERATION IN_SELECTED CASES OF CHRONIC SCHIZOPHRENIA

"In certain selected chronic cases of schizophrenia, in the light of present knowledge, lobotomy should be continued in order to restore many disabled persons to social usefulness," A. E. Bennett, M. D.; J. J. Keegan, M. D., and C. B. Wilbur, M. D., Omaha, advise in The Journal of the American Medical Association for November 27. "This operation," they continue, "has effected a good social recovery in 4 cases of aggressive paranoid schizophrenia. One catatonic type failed to improve. (The five cases are described in their report.)

"The problem of social rehabilitation of these patients opens up a new field of social and psychiatric nursing technics and needs more study to aid lobotomized patients to resume normal living."

The operation of prefrontal lobotomy for certain mental disorders was introduced by a Portuguese neurosurgeon, Egas Moniz, in 1936 and in this country in the same year by Walter Freeman, M. D., and J. W. Watts, M. D. As the Omaha men point out, the operation has been established as a useful procedure in psychiatric treatment. They believe its usefulness should continue to be investigated and that it should be limited to chronically disabled psychotic or mental patients unimproved by other treatments.

GEN. MAGEE NAMED EXECUTIVE OFFICER OF INFORMATIONAL SERVICE

"Prof. Ross G. Harrison, chairman of the National Research Council, has announced the appointment of Major Gen. James Carre Magee, Medical Corps, United States Army, retired, as executive officer of the Informational Service of the Council's Division of Medical Sciences," The Journal of the American Medical Association for December 4 reports. "This service has been established by the National Research Council under the recent grant of the Johnson and Johnson Research Foundation, by which the sum of \$75,000 was made available to the council for the period ending June 30, 1945. The purpose of the grant was to enable the council to assemble and disseminate, as far as possible medical information pertaining to the war effort. . . ."

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A DISCUSSION OF FOCAL INFECTION

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The theory of focal infection, first promulgated about 30 years ago, especially by Billings, Rosenow and others, soon became widely accepted by the profession, and practically ever since has been enthusiastically regarded as sound, so much so that millions of teeth and tonsils and thousands of gallbladders have been removed in the vain hope of helping pains and aches of various kinds. Removal of infected foci has been advised for practically everything from back pain to hypertension, but the idea has reached its greatest flowering in the different types of arthritis, especially the socalled rheumatoid arthritis or infectious arthritis, which latter term, in my opinion, is a misnomer.

Medical men are supposed to be scientific minded, but as a matter of fact we are very gullible and too much inclined "to follow the leader," without scrutinizing carefully enough the validity or accuracy of his concepts. Once an idea is implanted the tendency is to go to great extremes in its application, oftentimes extremes far beyond the limits of reason. For example, witness the present situation as regards the sulfa drugs and vitamins, the former being used for every conceivable kind of fever, and the vitamins to cure everything from falling hair to ingrowing toe nails. We lose sight of the definite indications for and limitations of new therapeutic agents and blindly use them for everything under the sun. Part of this is due to our desire to help the patient and part to fear that we will seem ignorant of the latest advances if we do not

employ newly discovered agents in our work. Once a new method or drug finds its way into the text-books it stays there indefinitely, though it may long since have been found useless and been superseded by better therapeutic measures.

At first I was a convert, just as was every one else, to the idea of focal infection and I shudder now to think of the tonsils and teeth that I caused to be removed without the slightest benefit to the patient, but with considerable expense and, often, much pain to him. After a few years of this I gradually began to realize that results were disappointing to say the least and more often absolutely nil. So thoroughly standardized, however, was the procedure that for several years I continued a faithful search for foci and always advised their removal if found. So futile has this seemed that now in the study of most cases the part played by foci of infection occupies a secondary position in my mind.

Of course, acute attacks of arthritis do follow acute tonsillitis and pharyngitis; it is well known that acute glomerulonephritis follows infections of the throat, blood stream infections develop from various septic foci, and there are many other instances of the spread of sepsis through the blood stream. These are incontrovertible facts, but that a small abscess cavity at the root of a tooth or a slightly ragged tonsil can be solely or even largely responsible for such long drawn out, devastating illnesses as many cases of rheumatoid arthritis is open to considerable doubt in my mind and I think our ideas along this line need to be revised. The same applies to hypertension

Read before the Southeastern Division of the Association, Union Springs, October 13, 1943.

and many other conditions which have been blamed upon these same causes. I have never seen a case of hypertension which has been influenced in the least, either favorably or unfavorably, by the removal of infected foci. I think, too often, this procedure has been followed more or less in desperation, but unless there are other definite reasons for their removal, foci should never be eradicated with the idea of benefiting the blood pressure or most of the many other conditions for which this has been advocated.

One bad thing that this hypothesis has caused in too many instances has been the inadequate examination of patients. It is so easy to refer the patient to a dentist and have his teeth removed or to a larvngologist for tonsillectomy that such advice has been given all too frequently to the exclusion of a proper study of the individual. A few years ago a young married woman came to me because of pain in the lumbosacral region of her back. This had been present for several months when she consulted her family physician, who, without an examination, referred her to a dentist. Some dead teeth were removed, but the pain continued and, after several months additional, she came to see me. Examination revealed a perfectly enormous ovarian cyst, removal of which relieved the discomfort. One sees similar instances almost every day. So thoroughly has the idea of focal infection permeated. not only the profession but the laity as well, that often patients go to the dentist first and to the doctor only if the dentist has failed to give relief. They come to the doctor with the statement that "the dentist found enough poison to cause anything, but the pain continues although he took out five or six teeth." I think it safe to say that the majority of these back pains are due to mechanical causes, such as strain, faulty posture, pressure on nerves, ruptured discs, etc., many of which could be found and relieved by proper orthopedic treatment, but this is never tried until long after tonsils and teeth have been thoroughly eradicated. I think it time for us to realize that other factors than infection play a predominant role in these various bodily aches and pains and that they should be sought for before extirpation of any organ is begun.

As to rheumatoid arthritis, the infectious theory has three variants: that it is due to bacteria, to protozoa or to viruses. The proponents of the bacterial theory hold that infection may occur in three ways: first, an actual bacterial invasion of the affected areas through the blood stream; second, that toxins from some focus of bacteria may be responsible; and, third, that bacterial allergens may be the causative factors. None of these has been definitely established, though many experimenters have found streptococci in the involved tissues, of the same strains as those found in the supposed causative foci. These have never been discovered in more than a small percentage of the cases studied, however; not nearly enough in my opinion to justify the conclusion that the relationship was one of cause and effect. As to the role of bacterial toxins and allergens, so far as I am aware, there has never been the slightest proof that either plays any part in the disease.

The most telling argument to my mind against the infectious theory is the fact that therapy based on that idea does not work. Of course, when foci are removed late in the disease after the involved joints have become chronically inflamed and, according to this theory, have become secondary foci, one would not expect to accomplish much by removal of the primary focus, just as nothing is gained by removing a primary cancer, after it has metastasized. Unfortunately, however, so far as I have been able to see, removal of foci in the very beginning is of no greater value, for one sees constant progression of the disease in many cases in which all discernible foci have been eradicated very early in the course of the illness. It is difficult to see why rheumatoid arthritis is not vastly more prevalent if dental infection is at all responsible, for examination of a cross section of the population reveals the existence of an enormous amount of dental sepsis, vet rheumatoid arthritis is no more prevalent in those with badly infected teeth and gums than in those free of mouth infection.

Another significant fact is that many of the proponents of the theory now doubt its validity. Notable among these is Cecil, one of the leading students of arthritis, who now has changed his mind completely. In 1938 I heard him read a paper expressing grave doubt of this hypothesis. Some years ago I sent him a lady of 72 with a severe case of rheumatoid arthritis whom I was unable to help. Among other things he had her tonsils removed. There was no improvement at first, but within a year she was almost well. Several years later in a personal conversation he told me that if he had a similar case again he would not take out the tonsils. Many other authorities, I think, now entertain similar ideas, but the profession at large, as far as I can judge, still accepts the old viewpoint, looks first for any possible infectious focus, instead of making a general survey of the patient.

The truth is that we do not even remotely know the cause of rheumatoid arthritis for none of the other hypotheses are any more satisfactory than the one under discussion. By some it is considered to be of metabolic origin, by others circulatory, by still others of endocrine causation, and in some quarters it is regarded as of neurogenic etiology. None of these stands close scrutiny, and now the tendency is to call it a constitutional disease, which means exactly nothing. Definite knowledge on the subject is apparently still a long way off, and, in the meantime, we shall have to struggle along more or less empirically doing the best we canwhich is very little—to give relief to this army of unfortunate sufferers.

To digress a little from our main topic of focal infection, I think our present methods of treatment of rheumatoid arthritis are of little avail except to give some symptomatic relief. As is true of practically all diseases of unknown etiology, particularly chronic diseases, where there is no known specific cause, the proposed remedies have been legion, but I doubt if any of them really hinder the progress of the malady. I have seen many cases which convince me that arthritis of this type simply "burns itself out" so to speak, influenced very little by our efforts to help. As an illustration, a number of years ago I saw a lady in her sixties completely bedridden with a devastating type of arthritis that was helped by nothing we did for her. After two years of intensive effort we gave up trying, expecting the poor soul to be bedridden for the rest of her life. Several months later she began to improve, in another year was up and around, and

now for nearly a decade she has enjoyed good health except for minor deformities and ankyloses of some of her joints. All of you I am sure have seen many similar cases. The multiplicity of remedies is accounted for, I think, because the last thing that was being done gets credit for the cure, which, as I have stated, would have probably come regardless of the treatment being employed.

To return to the subject of focal infection, we have been told that pyorrhea, where there is more or less free drainage, is not dangerous but that the apical abscess which is enclosed is the one from which absorption comes and which does the damage, but I know of no proof of this statement. Rosenow and others maintained that every clead tooth, even though no evidence of infection could be found, was a source of danger and should be removed. I have seen people harbor for many years teeth such as these with no harm resulting and, on the contrary, I have seen many such teeth removed with no benefit at all. I readily concede that there can be definite reasons for clearing up dental infection, such as to prevent the spread of infection to contiguous areas, cosmetic reasons and others, but unless dental infection is definite and heavy. I do not think it should be done with much hope of helping the victim of rheumatoid arthritis. No matter how severe the infection, never promise the sufferer from this disease that his arthritis will be helped by this measure.

Much the same reasoning applies to tonsillectomy. I do not think tonsils should ever be removed just because they are enlarged, as has been done entirely too often. In my opinion removal of infected tonsils is always a forlorn hope if done to help infectious arthritis, and I even doubt if tonsillectomy is valuable in rheumatic fever, though for many years this was considered standard procedure. As in the case of teeth, there are certain definite indications for tonsillectomy, but I believe that rarely, if ever, is infectious arthritis or even the various forms of myositis, fibrositis, etc. one of them.

As to cholecystitis, prostatitis, etc., the same reasoning applies, for I think it extremely rare that infection of these organs

plays any part in the causation of the diseases under discussion.

In conclusion I should like to quote the opening and closing paragraphs from the previously mentioned paper of Cecil and Angevine,¹ written in 1938. "Focal infection is a splendid example of a plausible medical theory which is in danger of being

converted by its too enthusiastic supporters into the status of an accepted fact."

In concluding Cecil writes: "The time has arrived for a complete revaluation of the focal infection theory. Undoubtedly there are cases of infectious arthritis which result from focal infection. However, as far as typical rheumatoid arthritis is concerned, it would appear from this study that chronic focal infection plays a comparatively unimportant role." The sooner this decision is reached by the mass of the profession, the better off our patients will be.

FOREIGN BODIES IN THE ESOPHAGUS AND LOWER RESPIRATORY TRACT

GILBERT E. FISHER, M. D. Birmingham, Alabama

In recent years bronchoscopy and esophagoscopy have become exceedingly important aids to general medicine in the examination and treatment of pathologic chest conditions. The day has long since passed when these procedures were used only for the removal of foreign bodies from the air and food passages. Neoplasms of the larynx, trachea, bronchi and esophagus can now be accurately diagnosed and localized by peroral endoscopic visualization and biopsy. Lung abscess, bronchiectasis and tuberculosis also receive concise treatment by these means. However, the major portion of the work is still concerned with the removal of aspirated and ingested foreign bodies.

During the past three years the writer has had the opportunity to see eighty-nine patients in whose air and food passages foreign bodies had lodged. A few cases which present particular points of interest will be discussed briefly.

Laryngeal foreign bodies in this group of patients include sand burrs, cockle burrs, open safety pins, a curved wire, and a wire

TABLE 1 FOREIGN BODIES IN THE TRACHEA

Corsage pin	1
Open safety pins	2
Curved wire	1
Thumb tack	1
Kernels of corn	2
Metal buckle	1
_	-

TABLE 2 FOREIGN BODIES IN THE LARYNX

Cockle burr	
Open safety pin	3
Wire button	
Sand burr	2
Curved wire	1
_	_
	9

TABLE 3 FOREIGN BODIES IN THE BRONCHI

button. Tracheal foreign bodies include a corsage pin, open safety pins, a curved wire, a thumb tack, kernels of corn, and a metal buckle. Bronchial foreign bodies include peanuts, peanut husks, pecans, pecan shells, watermelon seeds, a lemon seed, an acorn,

^{1.} Cecil, Russell L., and Angevine, D. Murray: Clinical and Experimental Observations on Focal Infection, with an Analysis of 200 Cases of Rheumatoid Arthritis, Ann. Int. Med. 12: 577-584 (November) '38.

TABLE 4

IN THE ECODUACUE

FOREIGN BODIES IN THE ESOPHAGUS	
Chicken bone	7
Penny	3
Pork bone	2
Pencil	1
Metal key	1
Thread and needle	1
Fish bone	7
Steel wire	1
Metal tax token	4
False teeth	2
Reflict of com	2
Tylchel	2
Open safety pin	3
Metal screw	1
Meatl	0
Metal staple	1
-	

Note: The kernels of corn located in the esophagus were found in patients who had lye strictures of the esophagus.

corn bread, chewing gum, bacon, kernels of corn, beans, green peas, hairpins, a stem of an oak leaf, popcorn, straight pins, pieces of glass, safety pins, and a metal ball. Esophageal foreign bodies include chicken bones, pennies, pork bones, a pencil, a key, a thread and needle, fish bones, a steel wire, metal tax tokens, false teeth, nickels, open safety pins, a metal screw, numerous pieces of bone and meat, and a metal staple.

Laryngeal foreign bodies can at times be most distressing and cause a severe degree of dyspnea. N. C., an eight-year-old child was running through a cotton field when a large cockle burr flew into her mouth and was aspirated. A severe paroxysm of coughing, accompanied by respiratory embarrassment, immediately resulted. She was hurried to the hospital and a laryngoscope was promptly introduced. The burr was found in the anterior commissure of the larvnx firmly fixed between the vocal cords. Intense inflammation had developed and only a small aperture in the posterior part of the larynx was available for the passage of air. The burr was removed at once and the patient had an uneventful recovery. I feel certain that the inflammatory reaction would have completely obstructed the larvnx within twelve hours if the burr had not been removed.

The gravity of a foreign body in the lung is well illustrated in the case of J. R., age four. This child aspirated one-half of a pecan nut. He immediately began to cough and became cyanotic. The coughing grad-

ually subsided except for a residual harsh sound on inspiration, and the cyanosis cleared up. He was transported approximately one hundred miles from his home to within three city blocks of the hospital, when he suddenly began to cough violently and again became cyanotic. The writer was able to reach the hospital within ten minutes after this episode occurred, but found the child pulseless. Respirations had ceased. A five millimeter bronchoscope was immediately introduced and a pecan nut was found firmly fixed in the trachea just below the vocal cords causing complete obstruction of the tracheal lumen. The nut was removed at once, but all means of resuscitation failed. This demonstrates the fallacy of picking up a child by the heels and shaking him after he has aspirated a foreign body, for if the above mentioned patient had been picked up by the heels and shaken forcefully the nut might have been forced up into the trachea causing tracheal obstruction before it did.

Vegetable foreign bodies, especially peanuts, cause a severe inflammatory reaction in the bronchial mucosa in a very short time. M. M., a three-year-old child, aspirated a peanut four days prior to admission to the Examination revealed diminhospital. ished breath sounds over the entire right lung, and the left lung and heart were displaced to the right. The patient coughed constantly and had developed a temperature of 103 F. A four millimeter bronchoscope was introduced and a partially disintegrated peanut was found filling the right bronchial orifice. This was removed. Severe hyperemia and edema had developed in the bronchial mucosa at the site of the foreign body. Thick tenacious discharge was aspirated from the bronchial lumen below this site, following which the normal aeration of the right lung was established and the temperature dropped to normal within eight hours.

In contrast to the serious complications which may rapidly arise following aspiration of a vegetable foreign body, as illustrated above, a metal foreign body may be lodged in a bronchus for a considerable length of time without serious sequelae. L. P., a seven-year-old male, suddenly began coughing while playing on the floor with a handful of buttons and toys. The cough soon subsided and the child was ap-

parently without discomfort for a period of four weeks, when he developed a wheezing type of respiration. When examined by the writer he had a definite respiratory stridor. X-ray revealed a metal foreign body at the level of the tracheal bifurcation. A six millimeter bronchoscope was passed and a metal buckle was removed from the lower end of the trachea. His convalescence was entirely uneventful, although this foreign body was present in the lung for at least thirty days.

Amusing, though tragic, cases are occasionally seen by the esophagoscopist. I was awakened at two a. m. recently by the telephone. A voice stated: "I'm sorry to bother you at this time doctor, but I need your help. I have just awakened to find that I have swallowed my false teeth." The patient was carried to the hospital where, under local anesthetic, a nine millimeter esophagoscope was passed. In the middle one-third of the esophagus a false denture, containing seven teeth, was found and removed. I might add that I have never had a more grateful patient. Another similar case was seen recently in which the spasm of the esophageal musculature was so severe that we were compelled to use ether anesthesia to relieve the spasm before the denture could be removed.

Another case of interest was G. R., age 6, who swallowed a large sharp fish bone approximately 5 hours prior to admission to hospital. At the time the child swallowed this fish bone and experienced acute sharp sticking pain in the hypo-pharynx, the father inserted the index finger down toward the base of the tongue in an endeavor to push the foreign body down to the esophagus. Under local anesthesia an esophageal speculum was passed and a hyperemic excoriated area was found in the hypopharynx just above the opening of the esophagus. No foreign body could be seen. The child was discharged from the hospital but continued to have a sharp sticking pain in the hypo-pharynx upon swallowing. He returned three days later and re-examination presented a small abscess at the site of exploration. When this was gently probed with forceps, a firm object was illustrated and was grasped. A large sharp thin fish bone was extracted.

Many similar cases of foreign bodies in the esophagus and bronchi could be related, but I feel it would be repetition.

CONCLUSIONS

The foregoing case reports are only a few which illustrate general principles which I would like to enumerate.

- 1. Vegetable foreign bodies in the lung should be removed as soon as possible because of the severe inflammatory reaction caused by them in a relatively short time.
- 2. A child should never be turned up side down and shaken in an endeavor to help him cough up a foreign body.
- 3. It is extremely unwise to try to push down blindly a foreign body in the throat.
- 4. Roentgenograms are a great aid to the bronchoscopist, but one should keep in mind that many foreign bodies are non-opaque.
- 5. Peroral endoscopy is a safe, quickly performed, often life saving procedure and should not be withheld when indicated.

501-5 Medical Arts Building

Hypertension—The mechanism by which blood pressure is elevated is known to be constriction of the arterioles throughout the body. In the early stages this is due to spasm while the arterioles are yet capable of relaxation so that during sleep or under the influence of sedation the pressure drops to more or less normal levels. As time goes on under the stress of hyperactive stimuli the arterioles lose their power of relaxation, their walls become thickened and their lumina permanently narrowed. With this progressive narrowing the blood pressure must increase according to the law of the flow of liquids so as to deliver blood into the systemic cell capillary bed and/or the brain vital centers and/or the cells of the renal tubules at optimal physiological volume and pressure.

In the natural progress of hypertension one unit or another of the cardiovascular system may break. The triad of important organs primarily affected is the heart, the kidneys and the brain. One patient may show outstanding cardiac symptoms and progress to congestive failure; another presents predominant uremic symptoms, and in still another cerebral symptoms are paramount with various combinations of headache, vertigo, insomnia, nervousness, somatic sensations of paresthesia, pain and weakness and finally cerebral hemorrhage or other types of hypertensive arteriosclerotic encephalopathies. Once the diagnosis of essential hypertension is made one is helpless to prevent its progression. Furthermore the occurrence of cardiac and renal breaks and cerebral insults should not be looked upon as accidents but rather as expected events in the course of hypertensive vascular disease.—Horn, Texas S. J. Med., Dec. '43.

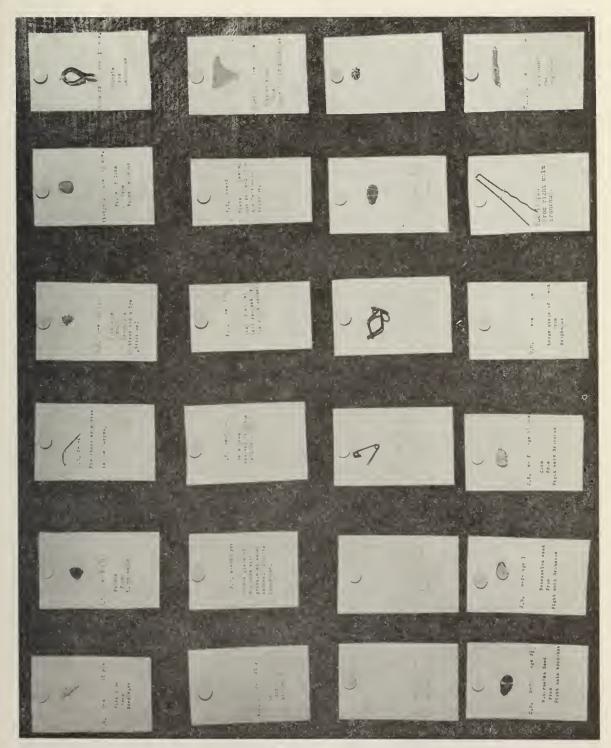


Fig. 1

1st row. Fish bone from esophagus, peanut from left bronchus, straight pin from larynx, pork bone from esophagus, piece of corn from right bronchus, staple from esophagus.

2nd row. Meat from esophagus, piece of pork from esophagus, green bean from left bronchus, stem of oak leaf from right bronchus, piece of chewing gum from left main bronchus, chicken bone from esophagus. 3rd row. Chicken bone from esophagus, lemon seed from esophagus, safety pin from esophagus, wire button from esophagus, watermelon seed from bronchus, crepe myrtle berry from esophagus.

4th row. Watermelon seed from bronchus, watermelon seed from bronchus, corn from bronchus, large piece of meat from esophagus, bobbie pin from bronchus, fish bone from esophagus.

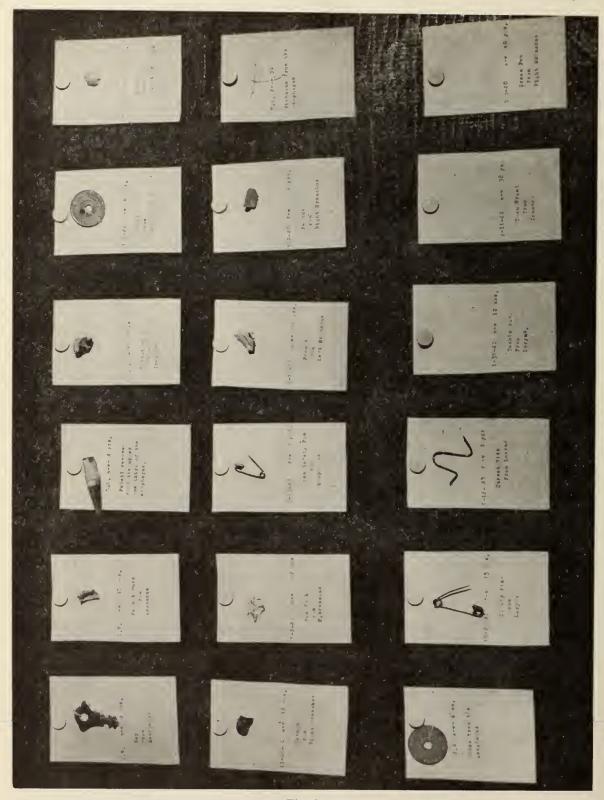


Fig. 2

1st row. Key from esophagus, peanut husk from bronchus, pencil from esophagus, walnut meat from trachea, token from esophagus, peanut from bronchus.

2nd row. Peanut from bronchus, rod knob from bronchus, safety pin from esophagus, peanut from bronchus, peanut from right bronchus,

fish bone from esophagus.

3rd row. Token from esophagus, safety pin from larynx, curved wire from larynx, cockle burr from larynx, corn bread from trachea, green pea from right bronchus.

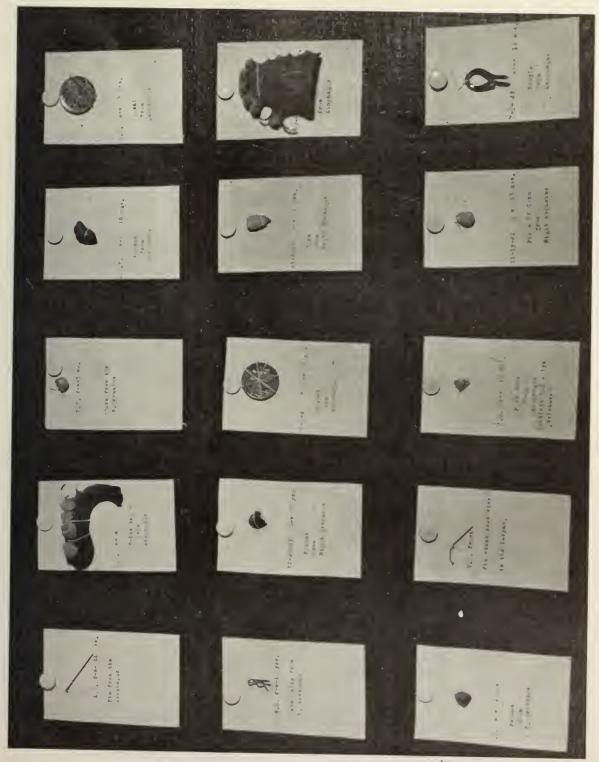


Fig 3

1st row. Pin from esophagus, false teeth from esophagus, corn from right bronchus, peanut from bronchus, nickel from esophagus.

bronchus, nickel from esophagus.
2nd row. Metal clip from left bronchus, peanut from right bronchus, nickel from esophagus,

3rd row. Peanut from left bronchus, pin from larynx, pork bone from esophagus, piece of corn from right bronchus, staple from esophagus.

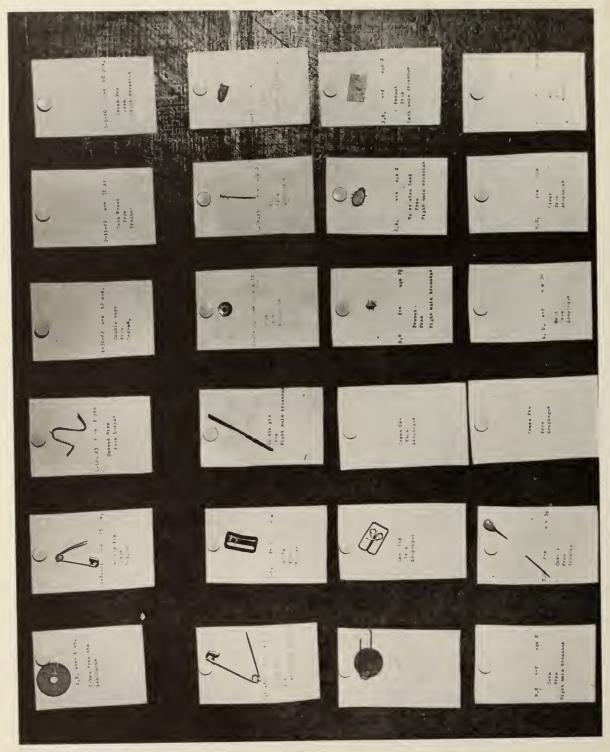


Fig. 4

1st row. Token from esophagus, safety pin from larynx, curved wire from larynx, cockle burr from larynx, corn bread from trachea, green pea from right bronchus.

2nd row. Safety pin from esophagus, buckle from trachea, bobbie pin from right main bronchus, tack from esophagus, pin from esophagus, peanut husk from right main bronchus. 3rd row. Penny from esophagus, gem clip from esophagus, green pea from esophagus, peanut from right main bronchus, watermelon seed from right main bronchus, peanut from left main bronchus.

4th row. Corn from right main bronchus, corsage pin from trachea, green pea from esophagus, meat from esophagus, liver from esophagus, meat from esophagus.

INTESTINAL OBSTRUCTION

P. P. SALTER, B. S., M. S., M. D. Eufaula, Alabama

An understanding of any disease invariably suggests an appreciation of causative factors and their physiologic interpretation. It is essential to understand that obstruction may occur in both the large and small intestines and is recognized as being acute or chronic in degree, high or low in position, and mechanical or paralytic in nature.

ETIOLOGY

The etiologic factors in production of acute intestinal obstruction are legion. In all, over 80 are named. For practical purposes they are, after all, relatively few. The history will comprehend whether the patient has had a previous operation before onset of obstruction and if so how many, for what and how recently? We thus divide the factors that may produce acute intestinal obstruction into those of (1) original causation, further divided into those (a) within the lumen of the gut and (b) those without the lumen of the gut. We might name, as examples of those within the lumen of the gut, a large gallstone just passed or ulcerated into the duodenum, neoplasms, foreign bodies that have been swallowed, hair balls, etc. Those without the lumen of the gut, yet constituting original causative factors, are intussusception, herniations of all varieties, volvulus, Hirschsprung's disease, non-specific inflammatory disease changes, strictures, and vascular occlusion. (2) Those factors of secondary causation. conditions that arise in an abdomen that has been previously operated upon. We naturally divide these into (a) those of immediate postoperative causes of intestinal obstruction and (b) those arising some time hence as a result of former operations.

When considering the immediate postoperative course the surgeon has the knowledge at hand as to what constituted the preceding operation. It might have been a gastro-enterostomy, a gastro-duodenal or gallbladder procedure, or an appendix, pelvic, or round ligament operation, or an operation for retroversion or colonic resection. We are certain, therefore, that the mechanism of production will be either bands or plastic adhesions or both between the loops of bowel and the operative surface. Here we are at a loss to know at times whether we are dealing with a paralytic ileus or an incomplete but non-vascular obstruction incident to the development of peritonitis. It is axiomatic that the more numerous the previous operative interventions the greater the likelihood of intestinal obstruction. The obstruction, whether ileus or mechanical in origin, may involve the small intestine, and may be high or low or of the large intestine, and we recognize the obstruction as being acute or chronic in nature.

DIAGNOSIS

The diagnosis is of all importance and demands an early recognition of the exact condition. The making of any diagnosis is the ultimate result of rational mental processes by which an opinion is formulated on the basis of the evidence found. This evidence is attained by (1) medical history, (2) physical examination, (3) special diagnostic procedures and (4) laboratory examinations, including x-ray. As Heyd says: "In no other intra-abdominal condition is the time element—with the possible exception of perforation—of so much importance." Cooper says: "It constitutes one of the greatest emergencies in abdominal surgery, an emergency in which surgical intervention is the only known life saving measure." As early recognition is of paramount importance, the early signs, symptoms and findings will be stressed.

MEDICAL HISTORY

Under medical history, particular attention should be paid age, nature and extent of previous operations, duration of present illness, and character and onset of symptoms. Particularly, attention is to be given the three most essential evidences of obstruction; pain, vomiting and failure to pass gas or feces; and, later on in the disease, distention, tenderness, rigidity, visible peristalsis and audible peristalsis. We shall now consider these symptoms in more detail.

Pain: Pain is referred to the mid-abdomen in the region of the umbilicus. It comes on suddenly, is paroxysmal in type and cramp-like in character, suggesting that the intestine is intermittently attempting to

force its contents beyond the point of obstruction. Of course the sudden and rapid onset of pain is dependent somewhat on the rapidity with which complete obstruction is established and whether high or low. The pain is associated with restlessness, is controlled with difficulty by narcotics, and shortly afterwards or simultaneously after onset of pain there is vomiting.

Vomiting: Vomiting is repetitive, without effort and the character of the material changes rapidly. It is progressive and becomes more voluminous and watery. Gradvally it assumes a brownish coloration, later darker in color, thicker and of fecal odor, and later stercoraceous. There is no more misleading symptom than this same fecal vomiting. Though it is absolutely diagnostic of obstruction, it is likewise absolutely prognostic of impending death. Says Handley: "When one waits for this sign to be positive of obstruction, he is positive of only one thing—that a sign of impending death has arisen." The vomiting then becomes a passive protective mechanism, like a kettle boiling over. This mechanism carries with it pronounced change in the chemical balance of the blood. The large and fatal quantities of fluid lost (from 4-8 quarts daily) lead to great loss of hydrochloric acid and chlorides, hence the peculiar chemical picture of alkalosis with high carbon dioxide combining power of the blood and an elevation of the non-protein nitrogen content of the blood. These changes are solely the result of loss of essential fluids as shown by Gamble, Hartwell and Hoguet, and subsequently by Haden and Orr. The higher the obstruction the more pronounced the pain, the earlier and more frequent and copious the vomiting, and the graver the outlook.

Failure to Pass Feces or Gas: This is the natural result of complete obstruction. It must be borne in mind, however, that all feces below the point of obstruction must be evacuated before constipation becomes an acute symptom and can be demonstrated. Therefore one or more bowel movements may occur from the contents held below the obstruction. Thus to demonstrate constipation or failure to pass feces can be counted on only after the bowel is emptied by several colonic flushes and high enemas. After the first one or two have been given, no feces returns and no gas is expelled. The fluid re-

turns clear or, at most, milky in color. Obstruction should at once be seriously considered and diagnosed as such until proved otherwise. Other points of significance that will aid in a true diagnosis are limited.

PHYSICAL EXAMINATION

Inspection: Inspection in the early stages is of little benefit, and spry and alert as the patients are one is prone not to believe they are so near the brink of catastrophe. The abdomen is usually flat or only slightly distended. If the abdominal wall is not too thick or flat, visible peristalsis is important and must be looked for but is not often seen.

Palpation: Do not overlook any hernial orifices, and special attention is to be given the presence of a scar of a previous operation. The presence of masses and points of tenderness is to be noted, and finally under palpation do not forget that a digital examination per rectum is of great importance and is often tell tale in its findings.

Auscultation with the stethoscope at first reveals a writhing gut and often a tinkling sound as the fluid swishes about in the beginning distended gut. Deaver says: "Audible peristalsis is pathognomonic and therefore auscultation of the abdomen should never be omitted."

An Elevation of Temperature in an obstruction not primarily due to inflammation is never present in the early stages of obstruction. On the contrary, normal or distinctly subnormal temperatures are the rule. However, the pulse tends to rise speedily and rapidly, and this fact, combined with a low temperature, is an important diagnostic point. Shock is apparent from the first when the circulation is affected, is always associated with distention, no matter what the primary cause of obstruction, is always a part of the toxemic picture of the final stages of obstruction, and is allied to surgical shock.

Laboratory Findings: Unfortunately, laboratory findings are of no great benefit as an aid to diagnosis except of a negative kind, especially in the early cases. The blood count remains within normal limits unless the circulation is affected or inflammatory changes set in. As stated, we have a diminution of chlorides, a rise in the non-protein nitrogen, and a rise, sometimes to extraordinary figures, of the carbon dioxide com-

bining power, but these are late symptoms and appear too late, except in acute total strangulated cases, to be of diagnostic value. Renal damage is late, and a urinalysis is negative in pointing a way except through scarcity in amount. The red blood count is increased in the presence of dehydration. The white count is normal until late in the disease. Blood pressure is normal until shock is instituted and then it is low. The pulse is weak and rapid, and the extremities are cold and clammy. In the terminal states, coma, delirium and death supervene. So much for symptoms, history and physical findings.

X-Ray: We now approach the one laboratory procedure that is of definite value, and if mortality is to be reduced an early diagnosis of the exact type of obstruction must be reached. Here we fall back on the roentgenologist. Schwarz was probably the first to demonstrate intestinal obstruction with the x-ray. He saw multiple fluid levels present that were not evident in normal abdomens. In 1913 Assmann called attention to distended loops of the small intestine in the roentgenograms of 5 cases shown at autopsy to have been intestinal obstruction. Case, in 1915, is accredited with being the first in this country to demonstrate the value of x-ray in diagnosis of acute intestinal obstruction. Oschner and DeBakey found that, after experimental strangulation or simple obstruction, the diagnosis could be made in from one to three hours by x-ray examination which demonstrates gas in the small intestine not normally found. Wagensteen and his co-workers, also Abbott, Miller, Borgen, Arnold and Whipple, are certain that an accumulation of gas in the small gut indicates a pathologic condition; yet they found out one could not differentiate between simple obstruction and that more serious and deadly condition strangulation. Oschner has shown, however, that gas appears earlier in strangulation than in obstruction proper. The presence then of gas in a scout film in abnormal locations, and especially if multiple fluid levels of herringbone or step-like character are demonstrable, is evidence of a conclusive nature.

TREATMENT

Now that it has been definitely concluded that some type of obstruction is being dealt with, what is to be the treatment and care? The problem can be approached from four angles: (1) prophylaxis, (2) chemical or replacement therapy, (3) mechanical or drainage procedures, and (4) surgical intervention.

Prophylaxis: Since nearly 90 per cent of acute obstructions occur in the small gut and 9-10% in the large, and as 90-96% of mechanical obstructions are due to postoperative adhesions, then we, as surgeons, should first make an effort to avoid adhesions in our surgical cases. The cause of the formation of adhesions is not clearly understood as yet. However, to avoid and lessen the liability of postoperative adhesions after abdominal operations, it is most important to avoid all trauma to the peritoneum. Gentle manipulation of the viscera is essential. No sponging or flushing should be resorted to, and all raw surfaces should be peritonealized. Drain only when necessary. Get in quickly and get out quicker. The use of amniotic fluid, the frequent use of omentum if possible, ectropion of the peritoneum, on closing the incision, use of sulfa drugs in a soiled abdomen to lessen infection and prevent use of drains will certainly tend to decrease chance of infection.

Chemical Therapy: Inhalation of oxygen causes a reduction in gas volume in the obstructed area. Fine, Banks and Herman all use 95% oxygen in cases complicated by great distention and when the diagnosis is in question between functional or mechanical ileus. They have shown that, when placing a patient in a nitrogen-free cabin with 95% pure oxygen, the nitrogen which is responsible for the distention diffuses out of the intestines into the blood and is expired through the lungs. It is highly advantageous in all patients, and especially in mechanical and strangulated cases, that we thoroughly prepare them before operation by replacing fluid lost from the stomach volume for volume-plus 1500 cc. of water lost by the skin, plus 500 cc. lost by respiration, plus 500 to 600 cc. to maintain kidney water. This calls for 3000 to 4000 cc. per 24 hours. The chlorides must be replaced to bring the chloride content up to the normal of 450 mgm. per 100 cc. Only this amount of chloride is advisable to replace the depleted blood chlorides, for an excess very definitely brings about a diminution in the plasma protein concentration from the normal level of 71/3 gm. per 100 cc. of blood to a critical level

of 5 to 51/2 gm., below which point tissue edema ensues. Such edema will be generalized, in the liver, lungs, chest and all intraabdominal viscera, and a vicious circle may thereby be set up producing the symptomatology that will closely simulate acute intestinal obstruction. In all cases of strangulation, when the abdomen is entered, bloody fluid will exude. This finding proves the diagnosis of strangulation. Such patients should have blood plasma at once. Where there is loss of cellular fluid, transfusions should be resorted to. In all patients that do not respond to n/NaCl or glucose I am convinced that blood plasma in small dosage often repeated should be given. I am further convinced that some patients do well on Ringer's solution with dextrose, and, as investigation continues as to the cause of toxemia in obstruction by such men as Dragstedt, Flynn, Cochran, Van Buren, Whipple and Blalock, we shall find that parenteral fluids containing proteoses, amino-acids, etc. will be of great aid. It is absolutely life saving to take the time necessary to prepare your patients by the above indicated methods before surgical procedures are undertaken.

Mechanical and Drainage Procedures: These are indicated in all cases of intestinal obstruction except strangulation or gangrene, in the management of postoperative mechanical obstruction resulting from fibrinous exudate, and in the treatment of obstruction due to paralytic ileus. Here we can use the nasal indwelling catheter of the Jutte or Levin type associated with the Wagensteen's continuous suction, or intermittent suction on the Levin tube with a syringe, and between the intervals leaving the tube open to drain in a jar by the side of the bed. If this method does not begin to show improvement in symptoms and the patient's condition in general within six hours, I prefer then to use the Miller-Abbott twoway tube for drainage of the loops at a lower level. I read a paper before this body in 1932 reporting 63 cases of intestinal obstruction and operative results. The statement was made that each hour operative interference was delayed increased the mortality 2%. The mortality rate was 38%. In 1936 I read a paper before the Southeastern Division of the State Medical Association and reported 42 additional cases and stated that since the introduction of Wangensteen's continuous suction duodenal drainage the number of patients that finally saw the operation table had been reduced to 42% of the obstructive cases and our death rate was reduced to 29.3%. Although in 1934 Miller and Abbott published their epoch-making paper describing the use of the double compartment rubber tube in intestinal obstruction it was in 1938 before I employed it in severe cases where the Levin tube did not get the desired results. The lateness of its use was due to the fact that it was devised originally for physiologic research. In 1938 Abbott and Johnson adapted the tube to the diagnosis and management of intestinal obstruction and now the death rate has been reduced to 12.8% in our last 23 cases. The tube is effective in both paralytic and mechanical obstruction. Small intestine suction in the presence of obstruction represents a closer approach to normal physiologic conditions. It will produce clinical improvement where duodenal suction fails. Intubation relieves the distention—a life saving procedure in itself—for if the pressure within the lumen of the intestine becomes greater than that of the blood within the arterioles and capillaries supplying the walls of the intestine, necrosis and peritonitis will result. At present our most satisfactory method of relief is intubation. It is needless to repeat here the method of use and the abuses of the Miller-Abbott tube. The technique of its introduction can be found in the latest textbooks. Suffice it to say that once distention has been relieved and no strangulation is present the advantages of intubation are obvious. A definite number of patients will be cured and no further treatment is needed. This applies particularly to cases of so-called paralytic and reflex ileus and the ones due to kinks. Any operative procedure will be facilitated and the danger of operation lessened, for every surgeon of experience has learned to his regret that distention increases operative risk. By postponing the urgency of operation, opportunity will be afforded for the parenteral administration of fluids, minerals, blood and even food to overcome dehydration, hypoproteinemia, hypochloremia and starvation. Roentgenologic examination with the tube in place will aid in localizing the site of obstruction and, if desired, a thin mixture of barium can be injected into the tube for study of the lesion. In addition I usually

leave the tube in place during the operation, aiding in finding the obstruction point, and to continue drainage postoperatively, preventing distention and allowing earlier administration of fluids by mouth. All drainage efforts are unsuccessful but with an improved surgical patient and risk we may resort to surgical intervention.

The effective relief of obstruction depends ultimately upon the direct removal of the cause. With your patient made surgically better fitted by the above treatment, operation should be undertaken at the earliest possible moment. It is better to operate and not find any intestinal obstruction than to delay and demonstrate one. The operation should be done before the chemical imbalance, the dehydration or distention becomes marked. Look for your obstruction when you have entered the abdomen, through whatever incision you deem best, by handling the collapsed bowel and not the distended bowel. Properly protect the intestines with warm saline packs to prevent shock and postoperative adhesions.

The remarkable possibilities of the intraperitoneal use of chemotherapy as an adjunct to surgery was first called to our attention by Mueller. Later, Spink of Minneapolis and R. L. Sanders of Memphis, Cove, Bailey, Boland, Rankin and others began the use of the sulfa drugs intraperitoneally and all concluded that through their use the number of pulmonary sequelae, cases of cystitis, postoperative ileus, cases of prolonged drainage and postoperative thrombophlebitis have decreased or have not occurred at all. We have been able to close abdomens without drainage in many instances where we formerly drained. In cases where resection is performed, a spill into the abdomen may have occurred, inflammation is beginning, an abscess is encountered, or soiling in any manner may have happened, I apply sulfathiazole by means of a salt shaker or blower over all of the loops appearing in the incision and in the layers of the abdominal wall as we close. I have observed no deleterious effect from its judicious use and complications are fewer, drainage is lessened in time, extent and frequency, and convalescence is more uneventful. The average dose of sulfathiazole used intraperitoneally is about 6 to 10 grams. This is used in powdered form with a salt

shaker and 1-2 gms. are used in the incision. I have found sulfathiazole the safest of all sulfa drugs for this purpose. Although chemotherapy will never replace good surgery it has already proved to be an unequaled adjunct and its proper use in time, place and manner will considerably reduce the mortality rate in the presence of even not so good surgery or surgical judgment.

I cannot close this paper without expressing my opinion on the importance of the selection of an anesthetic. Of course any anesthetic may be used. The choice may depend upon the experience or preference of the particular surgeon. I prefer spinal anesthesia and am convinced that due to its temporary paralyzing effect upon the sympathetic mechanism and thus tending to restore peristalsis it is the logical one for use. Three times I have seen cases relieved after the spinal without further interference. Again, above all, perfect relaxation is necessary and this rules out all gas anesthetics in my opinion.

Treatment of Goiter—Obviously postoperative therapy will differ considerably in the severely toxic group as compared with the mildly toxic group. In either case, the anesthetist or surgeon must be certain that the patient's airway is open and breathing is unimpaired. Allowing the patient to be up in a semi-sitting position with the back rest up adds considerably to his comfort and aids in swallowing.

It is essential that severely toxic patients be given a liberal quantity of fluid, particularly if the weather is warm and the patient is sweating considerably as he is apt to do. He should receive a total of at least 3,000 cc. on the day of operation, since he will not be able to take much of this by mouth during this period; the intravenous route seems preferable. In the average case a solution of 5 per cent glucose is preferable, although a liter of 5 per cent glucose with saline perhaps should be included. In severely toxic patients the glucose should be of 10 per cent concentration, except that containing saline.

The day following operation, the patient will be able to take considerable fluid by mouth. However, if he is severely toxic, this amount must be measured or approximated as accurately as possible and sufficient glucose given by vein to constitute a total intake of 3,000 cc. for an adult. Naturally oral intake is encouraged as rapidly as the patient is able to swallow, starting out with liquids and soft food.—Cole, New Orleans M. & S. J., Dec. '43.

URETEROCERVICAL FISTULA

REPORT OF 2 CASES

JARRATT P. ROBERTSON, M. D. Birmingham, Alabama

These cases are presented because of the apparent rarity of ureterocervical fistulae. In a rather extensive but not complete review of the literature, there were found reports of four cases. Only one text made mention of such a condition. It stated that it usually followed childbirth and not surgical procedures, but no cases were reported.

Shupe reported one case that followed a supravaginal hysterectomy. The injury was not suspected at the time of operation. The postoperative course was uneventful until the 9th day when urine began to dribble from the cervix. Cystoscopy revealed injury of the right ureter, 3 cm. from the bladder. Catheterization of the ureter was impossible and later it was transplanted into the bladder.

The foreign literature reveals three cases, two of which were reported by Bokeiman. The first followed a vaginal cesarean section. This patient had ben in labor for $67\frac{1}{2}$ hours. Urine began to drain from the cervix on the 8th postoperative day. A mass the size of a fist developed in the right parametrium. Cystoscopy revealed an obstruction of the right ureter 4 cm. from the bladder. The roentgenogram showed that the contrast media injected into the catheter passed the point of obstruction and also escaped through an opening into the uterus. Spontaneous healing of the fistula followed cystoscopy. The second case followed a forceps delivery. Cystoscopy three weeks following the delivery demonstrated a tear extending from the cervix that involved the bladder and right ureteral orifice. This case apparently was not a true ureterocervical fistula, but a ureterovesicocervical fistula. The obstruction was one cm. from the ureteral orifice. Gradually the fistula healed.

Tschernigousky reported the third case found in the foreign literature. It was a uretero-uterine fistula following an abortion by a village midwife. She used a long metal instrument with a hooked tip. It was felt she penetrated the uterine wall and injured

Presented in a round table discussion of genitourinary diseases at the annual meeting of the Association, Birmingham, April 21, 1943. the ureter. The patient was not cystoscoped, but the ureter was implanted into the bladder. At operation a fistula was found between the right ureter and the uterine neck. The postoperative course was uneventful and there was no more drainage of urine from the cervical stump.

CASE REPORTS

Case No. 1. Patient, while female, age 37, who lived out of town. The following history was obtained by telephone from the surgeon who did the hysterectomy. Four months previous a supravaginal hysterectomy had been done for the removal of a small uterine fibroid. The operation was not difficult, and the postoperative stay in the hospital uneventful. The patient left the hospital on the 9th postoperative day. Two days after returning home she complained of a profuse vaginal discharge and felt that it was urine. At this time she stated that the drainage was noted on the 5th postoperative day, and since then had been sufficient to soil clothing and bed. The surgeon was unaware of this during her stay in the hospital, neither did the nurses report the bed being wet. At this time the surgeon felt that the drainage was from the cervical stump and not urine. Two weeks later examination revealed urine draining from the vagina from an unknown source. Three months later the patient was examined and urine observed to drain from the cervical stump. At this time a cystoscopic examination was done by the surgeon. It failed to reveal any opening in the bladder. A No. 6 catheter passed easily to the right kidney pelvis. Obstruction was encountered on the left side 15 cm. from the ureteral orifice.

He was advised to fill the bladder with indigocarmine solution and pack the vagina with cotton to determine if the leakage was from the bladder. If this did not demonstrate leakage from the bladder to pack the vagina again with cotton and inject indigo-carmine in the vein. Following the latter procedure he reported the cotton soon became discolored with blue, and blue urine was seen to drain from the cervical canal. This proved undoubtedly that the injury was to the left ureter and it was questionable if the opening in it could be closed because of scar tissue. If the injury was 15 cm. from the ureteral orifice as reported it would be impossible to implant the ureter into the bladder, and a nephrectomy might become necessary. He was then advised to do kidney function tests, again to attempt to catheterize the left ureter, and to do pyelograms. If catheterization of the left ureter was impossible, to do an intravenous pyelogram.

The patient was then seen in the hospital in her home town. Due to her obesity and the lack of a Bucky diaphragm neither the retrograde nor

intravenous pyelograms or kidney function tests had been done. Due to the lack of information concerning the right kidney it was decided to cystoscope the patient again. This revealed a 10% phenolsulphonphthalein output in 18 minutes from the right kidney. On the left side a No. 5 bougie met obstruction 5 cm. from the ureteral orifice and not as previously reported 15 cm., but with manipulation it passed to the kidney pelvis. A No. 6 catheter passed only 5 cm. up this ureter, but did pass far enough to secure an almost continuous flow of urine. Due to the lack of a Bucky diaphragm and the obesity of the patient a pyelogram was not made. Inasmuch as the bougie had passed the obstruction it was felt that dilatation of the ureter should be continued and at a later date a pyelogram made before deciding what would be the proper procedure to follow. This was 19 months ago. The urinary drainage ceased 24 hours following the ureteral dilatation. Despite repeated requests the patient to date has failed to cooperate in having the ureter dilated.

Case No. 2. Colored female, age 36, had a supravaginal hysterectomy at the Hillman Hospital. The operative notes indicate the operation was not difficult and there was no reason to suspect injury of the ureter. She had an uneventful postoperative convalescence, the highest temperature being 100 on the 2nd postoperative day. Urinary drainage was noted on the 12th postoperative day, the day she left the hospital. She returned 2 weeks later complaining of a profuse watery discharge from the vagina. Examination 3 weeks later revealed urine dripping from the cervical stump. She was cystoscoped 2 months following discharge from the hospital. Cystoscopy revealed obstruction of the left ureter 6 cm. from the bladder. Urinary drainage from the cervix ceased 48 hours following the cystoscopic examination. Repeated attempts since that date, which was 4 months ago, have been unsuccessful in passing a catheter by the obstruction. Despite this, there has been no cervical urinary drainage during this interval. Intravenous pyelograms made recently show a hydro-ureter and pelvis of moderate degree on this side.

Case No. 1 has remained dry for 19 months, but refuses to cooperate to determine the condition of the kidney at the present time, but inasmuch as the urinary drainage ceased 24 hours following the passage of a bougie the ureter must be open and draining.

Case No. 2 opens the question as to what is the advisable procedure to follow now. Should the attempt to catheterize the ureter be continued or would it be advisable to transplant the dilated ureter into the bladder? It is a known fact that catheterization of a ureter transplanted into the bladder is frequently impossible, and that in a certain number obstruction develops that destroys the kidney by infection and back pressure.

Inasmuch as she has a good functioning kidney on the opposite side and if catheterization of the injured ureter continues to be impossible would it be advisable to wait and let nature take its course and see if kidney damage makes removal of this kidney at a later date a necessity, or would it be advisable to transplant the ureter into the bladder?

One can only speculate as to how these injuries occur. Why is there no postoperative pain and urinary drainage into the peritoneal cavity? Why does the urinary fistula through the cervical stump wait until the 5th to the 12th day to develop? I feel that a suture from the cervix penetrates the ureter and that leakage does not occur until the tension of this suture cuts through the ureteral wall. By this time the peritoneum has become united and prevents the escape of urine into the abdominal cavity. It then escapes through the opening in the ureter and drains down the suture tract to the cervical canal. The suture does not completely incorporate the ureter and therefore does not produce blockage and ureteral colic. The ureteral catheterization breaks down granulated tissue and establishes the continuity of the ureteral canal. It then requires less resistance for the urine to pass down the ureter into the bladder than through the fistulous tract. Therefore there is an almost immediate cessation of urinary drainage and healing of the fistula.

510 Medical Arts Building.

Lacquer Dermatitis—Dermatitis following contact with lacquer is not by any means a new condition. With each new use of lacquer, many sensitive individuals experience a severe dermatitis.

Recently eleven patients suffering with lacquer dermatitis have come under my care. Ten of these patients gave a history of having used lacquer pads for hair dressing. I understand that several brands are on the market, but only two brands were used by ten of the eleven patients. The eleventh patient had previously used a lacquer spray as a hair dresser without any apparent dermatitis. However, following a single application of a new brand of lacquer from the atomizer, intense itching followed in a few hours with subsequent dermatitis the next day.

All of these patients had a dermatitis generally resembling dermatitis following contact with poison ivy. The lesions present were wheals, papules, papulo-vesicles, amber crusts, and accompanying edema of the affected areas. As would be expected, the head, face, eyelids, ears, and neck were involved.—Hailey, South. M. J., January '44.

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THE XANTHINE DERIVATIVES

The Council on Pharmacy and Chemistry of the American Medical Association reports as follows: "The value of the xanthine compounds has been disputed on many occasions. In 1930 and in 1937 the Council reviewed the claims for xanthine compounds in order to aid the medical profession in evaluating the clinical possibilities of these agents. To bring this information up to date, the Council has again initiated a study of the therapeutic claims by asking Dr. Norman H. Boyer to prepare the following review of recent work on this subject."

Boyer² then proceeds to give an excellent summary of this subject and it is regretted that lack of space compels us to limit ourselves to his conclusions, which are in part as follows:

"1. The xanthine derivatives are useful diuretics in congestive heart failure. The diuretic action of theophylline is somewhat more intense but less lasting than theobromine compounds. . . There is no satisfactory evidence to show that these drugs exert an immediate action which justifies their

1. Council on Pharmacy and Chemistry, J. A. M. A. 122: 306 (May 29) 1943.

2. Boyer, Norman H.: Aminophylline and Related Xanthine Derivatives: Present Status of Therapeutic Claims, J. A. M. A. (May 29) 1943.

use in acute pulmonary congestion or edema.

"2. The xanthines stimulate the myocardium to increased vigor of contraction: this is accompanied by increased cardiac output and increased work of the heart.

"4. Clinical evaluation of the usefulness of the xanthines in the treatment of coronary artery disease is far from satisfactory. It seems wise to place the burden of proof on those who claim therapeutic efficacy, and the evidence presented so far does not seem altogether unequivocal. Reports based on the evaluation of the subjective accounts of patients is open to serious errors, and attempts to determine the objective effect of these drugs, while commendable, are not beyond criticism. . .

"5. The xanthines are useful in the treatment of Cheyne-Stokes respiration. At times the effect is transient but in other cases the effect may last several hours.

"6. Aminophylline is effective in the treatment of bronchial asthma; it finds its greatest field of usefulness in patients who have become epinephrine fast. In general it is less effective than epinephrine and should not supplant the latter.

"7. There is no basis for claims that the xanthines effectively reduce high blood pressure.

"8. The available evidence is opposed to claims that these drugs are useful in the treatment of peripheral vascular disease."

Such conflicting and, at times, extravagant claims have been made for the xanthines that it is difficult for most practitioners to determine their real status. The Council on Pharmacy and Chemistry has done well to bring up this discussion again and Boyer's review and summary are recommended to all physicians who employ these drugs. Though caffeine may be used less than formerly, theobromine and theophylline are probably being used more than ever and all efforts to bring order out of chaos in this field are to be commended.

THE BOARD OF CENSORS AND THE WAGNER-MURRAY BILL

The Board of Censors at its meeting on November 29th adopted the following resolution regarding the Wagner-Murray-Dingell Bill looking to the socialization of medicine and commends its reading to every member of the profession in Alabama:

A RESOLUTION

Whereas, There has been introduced in the Congress of the United States a Bill (S. 1161; H. R. 2861) known as the Wagner-Murray-Dingell Bill, adding to and extending social security legislation; and

Whereas, The medical and hospital sections of this Bill would substitute an imported system of medical practice for the American form of direct private service; and in a nation founded on free enterprise with opportunity for one to pursue one's life work stimulated by the ideals and ethics that dominate a profession devoted to the service of mankind; and

Whereas, This Bill, if enacted, would confer upon the Surgeon General of the United States Public Health Service final and complete authority over the practice of medicine and the operation of the nation's hospitals, and

Whereas, Approximately one-third of the nation's physicians are in the service of their country, together with many other patriotic men and women whose interests are affected, and who, because of this circumstance, are not permitted to give expression to their views or wishes in regard to such legislation; and

Whereas, The general death rate in 1942 was the lowest on record, and the maternal and infancy death rates have continued to decline in recent years in the face of the stress of war, indicating that the medical profession is always prepared to rise to any emergency and fulfill its responsibility; and

Whereas, A great majority of our physicians are now extending their every effort to safeguard the health and lives of our civilian population, this legislation would result in the distribution of a medical service of inferior quality; and

Whereas, In view of the amazing progress of medical science in America; in view of the unprecedented standards of health and longevity enjoyed by the American people; in view of the unparalleled efficiency of the nation's voluntary hospital system; in view of the rapid development of new plans for better distribution of hospital and medical care; and in view of the achievements that have made the American physician the world's leader in his field, there can be no good reason for proposing a complete revolution in the delivery of medical care to the American people; and

Whereas, If this Bill is enacted, foreign experience with similar plans proves that the character and effectiveness of medical care will most certainly deteriorate to the disadvantage of the American people; and

Whereas, The Bill would create a class of political physicians subject to the influence of political practice in seeking emoluments and avoiding burdens, becoming a menace both to the patient and the public, now therefore be it

Resolved: That the Board of Censors of the Medical Association of the State of Alabama records its opposition to the medical and hospital sections of the Wagner-Murray-Dingell Bill for the following reasons:

1. It would establish complete bureaucratic control over the practice of medicine, with final authority resting in the hands of a single ap-

pointed official.

2. It would destroy the individual responsibility of the physician to the patient and violate the privacy of the relationship of physician to patient.

3. It would introduce political control, political preferment, and political manipulation into the practice of medicine and the operation of hospitals.

4. It would put an end to all voluntary cooperative efforts, such as the plans for medical

and hospital expense insurance.

5. It would debase the quality of medical service through the intervention of politics and the consequent loss of professional integrity and independence.

6. It is in direct violation of the American principles of personal initiative and voluntary enter-

prise.

Resolved: That the Board of Censors urge all voluntary agencies and organizations interested in the development and extension of good medical care to oppose the passage of the medical and hospital sections of the proposed Bill.

Resolved: That the Board of Censors pledge its aid in the formulation of plans which shall have their genesis in the medical profession and not in those unfamiliar with medical care problems.

Resolved: That copies of this resolution be forwarded to Alabama's representatives in both branches of Congress.

MISSING ISSUES OF HYGEIA

The library of the Association will greatly appreciate the courtesy if the issues of Hygeia listed below can be made available to it. They may be addressed to the Secretary at 519 Dexter Avenue, Montgomery. The files of the publication are otherwise complete.

January 1935 July, October 1933 October 1931 February, April, May 1928 June, September 1927 March, June 1925 May 1923

STATE BOARD EXAMINATIONS IN 1944

The State Board of Medical Examiners directs attention to the fact that two examinations will be held in 1944 for physicians

seeking license to practice in Alabama. The first has been scheduled for February 22, 23 and 24, registration to take place Monday,

February 21; the second, October 24, 25 and 26, Monday October 23 being the day for registration.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

THE COMMON COLD

Contributed by

John M. Gibson, Director

Division of Public Health Education

In a recent radio talk, the State Health Officer referred approvingly to the campaign of the Chamber of Commerce of the United States in behalf of improved health conditions among the great mass of the country's population. He called particular attention to that important body's plan to reduce the burden placed upon the war effort and upon society generally by preventable diseases and accidents. Society's inability to cope satisfactorily with this problem is estimated to cost the people of the United States some ten billion dollars a year. That sum is considerably more than the total federal revenues prior to Pearl Harbor and about one-fourth of the anticipated 1943 receipts of the U.S. Treasury from all tax sources. If that amount could be saved and distributed on a per capita basis among the people of this State, then every Alabamian would be richer by considerably more than \$3,000.

One of the chief items in this "tax everybody pays and nobody gets" is the common cold. Exactly how much this single cause of illness, which few people take very seriously, exacts every twelve months from the American people there is of course no means of ascertaining. The laws which require the reporting of new cases of measles, scarlet fever, syphilis, tuberculosis and a number of other diseases do not apply to this disease, and, even if physicians were required to report the cases they see, their reports would cover only a small fraction of those actually occurring, as there are probably dozens of colds which are never treated by a physician for every one that is considered serious enough to cause one to be called in. Often, too, conditions believed to be colds are actually other forms of illness, and, conversely, numerous indispositions believed to be other diseases are really colds. Therefore any facts and figures regarding the prevalence of this form of illness can be at best only an estimate.

It is believed on pretty good authority, however, that the average person has three colds a year. Using that as the basis of our computation, we find that the approximately 132,000,000 of us who constitute the population of the United States are victims of no fewer than 396,000,000 colds every twelve months. Among us Alabamians it seems safe to say that there are 8,700,000 colds during the same period. As the average uncomplicated cold usually lasts for about six days, a person no more fortunate in this respect than the average spends about 18 days out of every 365 either entirely incapacitated by this condition or trying to carry on his or her normal activities and labors in spite of it. The amount of discomfort and inconvenience brought by colds is not uniform throughout the year of course, because, like certain other diseases, this one is largely, although not entirely, seasonal. It is in winter that colds are most troublesome and most frequently encountered.

If you think absenteeism is a serious matter only in war industries, you do not have a real understanding of the problems of modern education. A study conducted several years ago revealed that, during the year under consideration, an average of approximately every fifth pupil was marked absent every day of the school term. In discussing school absences and the causes for them a few years ago, Dr. J. N. Baker, Alabama's late State Health Officer, pointed out that the boys and girls who should have been attending the public schools of 54 Alabama counties on an average school day, but were not, nutnumbered the combined population of Montgomery, Anniston and Tuscaloosa. He also pointed out that, during the eight or nine months constituting the school year to which he was referring, the pupils of those 54 counties lost as a result of sickness alone, "almost 3,000 pupil-years from their classrooms, the equivalent of a single pupil's being absent for a period of nearly 3,000 calendar years, or of nearly 4,000 pupils' being absent from school for an entire school year of eight months." Quoting educational authorities' estimates that it cost the taxpayers approximately twenty-six dollars per school year to provide a pupil with school room instruction, Dr. Baker said: "Thus illness, the chief enemy of attendance, robbed the pupils of those 54 Alabama counties in a single school year of instruction costing approximately \$104,000. This of course is in addition to the other costs of illness."

We have no exact information regarding the extent to which colds were responsible for this huge loss of time from school. However, we do know that colds are especially prevalent among persons of school age, that schools are in session during that part of the year when colds usually are most prevalent, and that the financial condition of a large proportion of the families from which those pupils come is such that health standards are likely to be rather low. We know, too, that, in spite of much progress in recent years, many school buildings are drafty and inadequately heated. Moreover, the necessity of waiting in inclement weather for school buses and riding to school in buses crowded with other pupils, some of whom may be coughing and sneezing, tends to increase the danger of contracting colds. In view of all these facts, therefore, it would appear that this disease is perhaps the greatest single contributor to the absenteeism problem, as it affects the schools.

Like certain other diseases, the common cold has been the subject of many legends and Old Wives' tales. Indeed few forms of illness have inspired more advice from well-meaning but medically uninformed friends, relatives and ordinary acquaintances than this one. One classic bit of advice was to "get under the bed when you know a cold is coming," because, according to those advice-givers, "you fool the chill by not being in bed when it expects to catch you there." This gem of medical wisdom makes about as much sense as the admonition to throw all your money into the river to keep from be-

ing robbed. About a decade and a half after the Declaration of Independence Dr. Thomas Haynes expressed the opinion that "sitting in cold, damp churches is the cause of colds." There was of course some truth in this statement, as dampness combined with cold makes one more susceptible to colds; but there is no more danger of contracting or aggravating a cold by sitting in a cold, damp church than there is in sitting in any other cold, damp building. Whenever you hear a person give this as his reason for not going to church, the chances are that he is more interested in staying away from church than in staying away from colds. As a general rule, churches are better heated than the average home. Still another fallacy regarding colds was spawned by the wise old Dr. Noah Webster, of dictionary fame. He attributed colds to comets and earthquakes. It does not require much intelligence to see the incorrectness of this. since millions of people now living, to say nothing of billions of dead people, have had colds without having seen a comet or felt an earthquake.

Although the men—and women too—of medicine have been hard at work for many, many years trying to unlock the secrets of this disease's cause and exact nature, their success has been much less than had been hoped for. As Lawrence N. Galton pointed out in a recent issue of The New York Times Magazine, "the fact is that, despite its wizardry with other diseases, medicine has found the cold, the most familiar of all ailments, one of its most puzzling problems."

Like other viruses, the cold virus is air-Therefore, when a person with a cold sneezes or coughs without covering his mouth, he sprays the surrounding air with thousands of virus-laden droplets. are said to travel as much as twelve feet from the spot where they are released at a speed up to 150 feet a second. Some of the droplets fall to the ground and do little or no harm. Others evaporate in the air, leaving the viruses in a state of suspension. Any person who breathes the air into which these droplets have recently been sprayed, or kisses someone whose lips contain these viruses, or places in his mouth tableware or other articles containing them is likely to have a cold, unless he has built up resistance to the disease.

That unless is important. For, just as millions of people receive tuberculosis germs into their systems without developing active tuberculosis, so millions of others breathe cold germs, or viruses, without developing colds. The person wishing to avoid colds, therefore, should combat this danger by keeping his general health at the highest possible level as well as by staying away, as far as possible, from cold sufferers, especially those who make no effort to protect others from their germs.

A few suggestions may be helpful: Avoid overheated rooms. Drink plenty of water, not as easy to do in cold weather, when colds are most prevalent, as in summer. Avoid sudden changes in temperatures. Be particularly careful about getting the feet wet and then spending several hours in an office or schoolroom without getting much physical exercise. Avoid drafts. Be sure that all normal physical functions are regular, including elimination. Obtain as much exercise as possible out in the open air, avoiding crowds as much as you can, and staying away from coughers and sneezers.

When one contracts a cold, he should go to bed, if possible. Many persons, especially during these wartime days of stress and strain, find it extremely difficult to do this, but there is no doubt that the complete rest one gets in bed-and nowhere else-is a great help in ending a cold. It should be kept in mind that the health and working efficiency of others are also involved in the decision whether to go to bed or stay on the job, as every cold sufferer endangers his associates every time he coughs or sneezes in their presence. Even from the point of view of one's own work, it may be better to stop working long enough to nip a cold in the bud, so to speak, since the amount of work done while one is working under the handicap of a cold may actually be less than that accomplished during the same period by not working at all for a short time and then returning to the job in a condition to work at full efficiency.

A dose of ordinary baking soda or other simple alkali is often helpful in "breaking up" a beginning cold. It is often advisable also to take a warm bath and then go to bed immediately in a warm bed. The bedroom windows should be kept open so as to admit plenty of fresh air. Extremely cold air and

drafts should be avoided, however. The patient should eat only lightly of the usual foods and increase his intake of fruit juices and fruit drinks. Bowel movements should be regular and normal. A simple laxative is often helpful. If these measures fail to bring marked improvement within 24 hours, a physician should be called. He should be called also if the patient has fever or experiences aching anywhere in the body.

All of us should take the common cold more seriously than most of us do. There is no occasion for alarm when the average person develops one, but it is the part of wisdom to avoid it, if possible, and do something about it as soon as one develops.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

OCTOBER 1943

Examination for diphtheria bacilli	
and Vincent's	1,019
Agglutination tests (typhoid, Brill's,	
undulant fever)	607
Typhoid cultures (blood, feces and urine)	669
Examinations for malaria	861
Examinations for intestinal parasites	1,668
Serologic tests for syphilis (blood and	
spinal fluid)	42,066
Darkfield examinations	24
Examinations for gonococci	2,996
Examinations for tubercle bacilli	1,343
Examinations for Negri bodies	
(microscopic)	41
Water examinations (bacteriologic)	1,132
Milk examinations	2,116
Miscellaneous	277
Total	54,819

NOVEMBER 1942

MOVEMBER 1343	
Examination for diphtheria bacilli and Vincent's	909
Agglutination tests (typhoid, Brill's,	
undulant fever)	499
Typhoid cultures (blood, feces and urine)	601
Examinations for malaria	495
Examinations for intestinal parasites	1,894
Serologic tests for syphilis (blood and	
spinal fluid)	43,670
Darkfield examinations	30
Examinations for gonococci	2,968
Examinations for tubercle bacilli	1,418
Examinations for Negri bodies	
(microscopic)	36
Water examinations (bacteriologic)	1,157
Milk examinations	1,972
Miscellaneous	221

Totals 55,870

BUREAU OF PREVENTABLE DISEASES D. G. Gill, M. D., Director

MEASLES

Contributed by
Robert K. Wilson, M. D.
Associate Public Health Officer

It is now open season for measles as evidenced by the fact that there has been a marked rise in the number of reported cases in the past few weeks. This disease exhibits definite years and seasons of prevalence, that is, it has definite cycles of occurrence, usually assuming epidemic proportions every two or three years. There is every indication that this 1943-44 incidence may be a real epidemic. There is no intention of being an alarmist, but special danger of exposing young children to those having fever and acute catarrhal symptoms of any kind, particularly during years and seasons of epidemic prevalence of measles, should be recognized.

The disease is caused by a specific filterable virus, and is present in the secretion of the mouth and nasopharynx, and is transmitted from person to person either directly or indirectly by these secretions. The incubation period is about 10 days from date of exposure to development of fever, and 13 to 15 days until the appearance of a rash. However, the period may occasionally be longer or shorter. Persons are capable of communicating the disease during the period of the catarrhal symptoms and until the disappearance of abnormal secretion of the mucous membrane. The minimum period is probably about 9 days—or about 4 days before to 5 days after the appearance of the rash.

Measles is usually recognized by its clinical characteristics—fever, catarrhal symptoms in eyes and nose and throat in the prodromal stage as well as at the height of the disease, and early eruptions in the mouth (Koplik spots), later an exanthema. Koplik spots are found on the buccal surfaces and appear most often at the level of the first molar teeth as bluish-white specks, pin-point in size, surrounded by a bright red areola. At first only a few may be present but finally the entire mucous surface may be covered.

When the disease is prevalent or a susceptible child has been exposed to a case of measles, the diagnosis should be suspected on the appearance of the fever and catarrhal symptoms without waiting for the rash; and isolation precautions should be instituted at once, inasmuch as all persons must be considered susceptible until they have had the disease; except that most babies born of mothers who have had the disease are usually immune for the first few months of life. Any person having no history of the disease should never deliberately expose himself. The disease occurs most commonly in children from 5 to 14 years of age, but many cases are in children under 5 years. The complicating pneumonia which is not rare is much more likely to result in death in children under 2 years than at higher ages.

The immunization of infants and children under 3 years of age where measles is imminent with convalescent serum or whole blood from immune older children or adults may prevent or modify an attack.

Isolation during communicability should be carried out for the sake of the patient as well as others as they are unusually susceptible to other infections during this time and in early convalescence.

PREVALENCE OF COMMUNICABLE DIS-EASES IN ALABAMA

1943

			E. E.*
	Oct.	Nov.	Nov.
Typhoid .	8	3	18
Typhus		101	35
Malaria		192	435
Smallpox		0	0
Measles		177	28
Scarlet fever		84	139
Whooping cough		55	67
Diphtheria	155	83	155
Influenza	182	215	223
Mumps		44	53
Poliomyelitis	6	2	5
Encephalitis	0	0	2
Chickenpox		65	93
Tetanus	6	4	5
Tuberculosis	204	196	215
Pellagra	3	6	15
Meningitis	11	8	6
Pneumonia	228	268	229
Trachoma		0	0
Tularemia	0	0	0
Undulant fever	6	4	3
Dengue	0	0	0
Amebic dysentery	0	1	0
Cancer	147	149	0
Rabies—Human cases	0	0	0
Positive animal heads	10	9	

As reported by physicians and including deaths not reported as cases.
*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

INCREASING PERCENTAGE OF NEWBORN BABIES WHOSE FATHERS ARE IN MILITARY SERVICE

Reports from 29 states show that 3 per cent of the infants for whom birth certificates were filed during May, June, and July 1942 were babies of men in military service. Similar reports from 26 states indicate that 12 per cent of the infants for whom birth cetrtificates were filed in January, February, and March 1943 were born to men in military service. The highest percentage is in Indiana where 20 per cent of the babies have fathers in the armed forces, while South Dakota is the lowest with 7.4 per cent.

Alabama's birth certificates do not give these data, but the Registrar of Vital Statistics states that the indications are there will be 6,000 to 7,000 more births in Alabama in 1943 than in 1942. How many of these will be children of enlisted men can only be estimated. The Southern States show that approximately 11 per cent or 12 per cent of the babies born this year have service men for fathers.

The number of married men entering the armed forces has been increasing and it can be expected that the number of babies born whose fathers are in service will continue to increase for some time.

Reports from all states showed that by November 1, 1943, approximately 100,000 wives had been authorized for care under the Emergency Maternity and Infant Care Program. Estimates based on the size of the Army, the proportion of married men, the reported number of pregnancies among the wives, and experience in the program to date indicate that approximately 300,000 wives will apply for care during the current year.

This has an important bearing on Alabama's Emergency Maternity and Infant Care Program. It is the intent of Congress that this service should be available to wives and infants of enlisted men, of the eligible grades, and it is to continue for the duration and for six months thereafter. It is anticipated that applications will increase and these cases should be given both medical and hospital care.

To render adequate maternity care there is need of more participating hospitals from

which the State Health Department may purchase hospital care for these wives. Many of these women have no home in Alabama. They have followed their husbands from camp to camp to be with them as long as possible—before the long separation for overseas duty. During the last months of pregnancy they realize their condition and seek government aid for medical and hospital care. With no home suitable for confinement and no cooperating hospital available for the State Health Department to use, they are denied this care. Even now many deserving applicants seek this service in vain and are forced either to pay their entire expenses, which they can ill afford, or to ask aid from the Army or Navy Emergency Relief Services or from the American Red Cross.

The station hospitals at the various army camps and air fields are admitting some of these maternity cases, but this does not relieve the need of more cooperating civilian hospitals.

A survey conducted in New York City disclosed the difficulties encountered by wives of service men in securing the service of competent physicians and hospital facilities during confinement. The difficulties are said to arise from the burden of work which both physicians and hospitals must carry under wartime conditions and from what was termed the "meager allowances" authorized by the government for such services. While it is true that reference is made in New York to physicians specializing in obstetrics the situation is comparable to that in Alabama.

We have hope that even our overburdened physicians and hospitals may find time and space to care for more wives of Alabama's men now in the armed forces.

Tomorrow's Health-For the public health of the future we need democratic planning and participation rather than autocratic dictation by government or vested interests or fortified minorities. The newer knowledge of the medical sciences is making available a great host of lifesaving drugs, sera, preventive and protective treatments. The discovery and use of many of these substances has been stimulated by the war. New problems in distant lands, the want of therapeutic preparations of prewar days have prompted the development of new and substitute means of handling disease and promoting health. Their value will be well known to the returning members of the armed forces.—Vaughan, Am. J. Pub. Health, Dec. '43.

BUREAU OF SANITATION
T. H. Milford, M. S. in S. E., Director

THE USE OF EXPLOSIVES FOR MALARIA
· CONTROL DRAINAGE

Contributed by
J. L. Crockett, Jr.
Asso. San. and P. H. Engineer

A few years ago, before the various work relief agencies were organized, the cost of malaria control drainage was assumed, primarily if not altogether, by the property owners affected. Naturally, the most economical and effective methods of construction were employed. The use of a particular method of ditch construction depended largely upon the type of soil, length and size of the ditch desired, and availability of equipment and materials. Only on ditches small in cross section and of short length (less than 1000 feet) would hand labor be considered and then only because the cost of shipment of materials and equipment overbalanced the saving that would be effected by their use. We are, at the present and probably for some time to come, going through a period when free labor provided by governmental work relief agencies is not available for the construction of malaria control drainage systems. Therefore, if drainage systems for malaria control or land reclamation are to be constructed, the financing of such work must be borne by those who are benefited by the accomplishment. Economical planning then becomes an extremely important factor.

Under our standard of living, the cost of hand labor quite often renders this method of ditch construction impractical from an economical viewpoint. Because of this, the more economical methods, such as the use of drag lines and explosives, are usually resorted to. The conservation of manpower also is a factor in limiting the use of hand labor.

The choice between the use of heavy machinery and explosives is largely determined by the type of soil through which a ditch is to be constructed. Dry soils do not always lend themselves to the use of explosives, while, on the other hand, they are usually ideal for drag line operation. Conversely, wet, mucky swamp lands where large quantities of water are encountered are well suit-

ed for blasting when, under such conditions, the difficulty in obtaining a firm foundation definitely limits the use of heavy machinery. It is difficult to set forth descriptions of soil conditions for each method and it is suggested that a person experienced in the construction of drainage systems be consulted on such matters.

Dynamite is being extensively used as a method of draining malaria mosquito-breeding areas in the vicinity of war establishments in the malarious states. It is also being used to reclaim lands for agricultural development. The advantages of this method are mainly low labor cost, ease of transportation, rapidity of construction, and availability of explosives.

Work preparatory to the construction of a ditch is practically the same when dynamite is used as it is with other methods. An engineering survey must be made to determine the line and grade of the ditch. The right-of-way must be cleared, and logs, brush, etc. removed from the ditch line as this material increases the quantity of explosives necessary to blast the ditch. It is not necessary to grub stumps as these and similar obstructions buried in the ground can be removed more economically by blasting with the ditch in a single operation.

The average cross section of the ditch and total amount of material are calculated so that the quantity of dynamite needed can be determined. The quantity of dynamite necessary for blasting a ditch depends upon the type of soil, size of ditch desired, and number of stumps or obstructions along the ditch line. Under ordinary conditions one to one and one-quarter pound of dynamite will move one cubic yard of material. Where stumps are large and numerous this figure will be nearer two pounds per cubic yard of material removed. Expressed in terms of ditch size, approximately one cubic yard of material per linear foot would be removed from a ditch three feet deep and having a bottom width of two feet and a top width of eight feet.

As methods of loading dynamite vary with the size of the ditch and soil conditions, a full discussion of this subject is not within the scope of this article. In general, loading should begin at the outlet of the ditch and the holes made vertical and straight along the center line of the ditch.

Most companies dealing with explosives have published literature on the subject of loading, shooting, and handling dynamite. This literature is usually furnished upon request and should be referred to by those contemplating the construction of ditches with explosives.

The average ditch which has been blasted with dynamite has the shape of a trough with the banks having a slope of approximately forty-five degrees. This slope seldom necessitates hand sloping of the banks in order to obtain stability. The disposal of spoil (earth removed from the ditch) is

not a problem as this material is blown high in the air and spread on each side of the ditch. The flushing and scouring action of water will remove loose material on the banks and in the bottom of the ditch and quite frequently the result is a larger ditch than that existing immediately following the explosion.

The purpose of this article is to point out a method of constructing drainage systems that is well suited to average conditions and one which can be resorted to when others prove too costly or impractical from an operational viewpoint.

BOOK ABSTRACTS AND REVIEWS

Trail to Light, A Biography of Dr. Joseph Goldberger. By Robert P. Parsons, Cloth, Price, \$3.00. Pp. 353. Indianapolis and New York: The Bobbs-Merrill Company, 1943.

Dr. Paul de Kruif, not given to over-praise, once called Dr. Joseph Goldberger "a giant in his day." One would have to be a cynic indeed to argue the point with him after reading this moving biography by a true and sincere admir-

Dr. Parsons (also Captain Parsons, of the U. S. Navy) had an inspiring story to tell, and he has told it well. It is a story that appeals strongly to Americans many of whom were stirred to clean living and honest effort by the popular Horatio Alger novels of a generation or two ago. The story of Dr. Joseph Goldberger is Sink or Swim or Paul the Peddler with a flesh-and-blood American as its hero. In the best American tradition, it is a stirring success story.

It is the misfortune of great men and women of science that their work is usually not dramatic enough to win popular applause and recognition outside their own limited professional circles. That is why the millions who flatter second-rate but highly press-agented moving picture actresses never think of speaking a word of appreciation to test-tube heroes or mosquito martyrs. We save our applause (and of course our more substantial financial rewards) for those who appeal to the animal instincts of humor and sex. That is the reason nine persons out of ten chosen at random could not identify Sir Ronald Ross, J. B. Murphy, Carlos Finlay, Henry Rose Carter, or Joseph Goldberger.

Nevertheless, there is drama in these men's lives and achievements, even though they lack the appeal to the mass mind and emotions which our current heroes and heroines have. It requires good writing to bring it out, but such a subject is worthy of a good writer's best effort. Goldberger's admirers have good reason to be pleased.

Dr. Parsons makes the most of the material at his command and of the dramatic possibilities of

his subject. Without—as far as this reviewer can detect—departing from the straight and narrow path of biographical accuracy, he recounts in interesting, absorbing fashion the main events in the life of this remarkable man: his birth on a small farm in Hungary; his and his parents' coming to America; their life in the Jewish section of New York's Lower East Side; his early enthusiasm for engineering; his later and more permanent interest in medicine; his brilliant record at Bellevue Hospital Medical School; his poor financial success as a practitioner among his parents' friends and neighbors; his departure from New York; the beginning of his practice in Wilkes-Barre, Pennsylvania; his meeting William Dean, a local chemist; his membership in the Luzerne County Medical Association; his growing unhappiness with his Wilkes-Barre practice, in spite of its financial success; his failure to obtain a commission in the Navy during the Spanish-American War because he had the Jewish name of Goldberger instead of a FFV name like Byrd or Brown; his second-choice decision to enter the U.S. Public Health Service, where he found a happiness he had never known before; his romance with a New Orleans beauty and heiress with the definitely non-Jewish name of Mary Farrar; his marriage; his happy married life; his growing family; his epochal labors in practically every field of public health; his crowning life work in forcing the South's great enemy, pellagra to give up its secrets; his last illness; his death.

The list of diseases to which Goldberger devoted his exceptional talents and his genius for taking infinite pains, almost always with great good to suffering humanity, is long enough to make a Goldberger fan of the most unsympathetic reader of Dr. Parsons' biography. It includes yellow fever, typhoid fever, dengue, hookworm, urticarioid dermatitis, straw itch, typhus, measles, diphtheria and pellagra.

Trail to Light is a useful, wholesome book for these times. In the sense that its subject died before the world entered the dismal era in which it still finds itself, it might be called "escapist" literature. But it is more than that. It is a valuable contribution to America's knowledge of her great men.

John M. Gibson.

Sex in Marriage. By Ernest R. Groves, Professor of Sociology, University of North Carolina; and Gladys Hoagland Groves. Third edition, revised, expanded and illustrated. Cloth. Price, \$2.00. Pp. 224. New York: Emerson Books, Inc., 1943.

This is the third edition of a popular guide book written by non-medical authors for laity consumption to put confidence and understanding in those about to marry or those who are maritally maladjusted. The male author is Professor of Sociology at the University of North Carolina and a well known author in the field of marriage hygiene who writes in a beautiful prose-like style with well chosen non-offending phrases. He is assisted by his wife, Mrs. Groves. The author introduces his book by attempting to put sex on a firm foundation by describing the sexual act as a necessary human relationship which has definite attributes and tribulations which the couple must face squarely from the start to make a success of their sexual partnership. He then rambles on without saying much until he attempts to give descriptions of the male and female sexual organs with the aid of much too scientific semi-diagrammatic charts in which the author takes too much for granted about the opposite premarital partner knowing the actual construction of each other's sexual apparatus. It seems that a series of drawings or photographs could be much more helpful. The chapters on technique are entirely inadequate even for the laity for there is no mention or stress laid on the important precoital love play necessary for the proper preparation for the act. Even a mare must be teased before she will properly accept the stud horse and the same can be said about the human female. The chapter on contraception merely mentions that there is such a thing as contraceptives but gives absolutely no mention of the various methods in vogue today. His biggest stress in this and the following chapter is laid on the fact that if contraception were more widely advertised there would be more illicit intercourse which shows that the author believes that premarital intercourse is restricted more because of fear of pregnancy than for mere moral reasons. With my apologies to the authors, I am forced to say that this book is inadequate for the intended purpose but I can say it is beautifully written.

Philip K. Burwell, M. D.

Health Instruction Yearbook, 1943. Compiled by Oliver E. Byrd, Ed. D., Associate Professor of Hygiene and Director, Division of Health Education, School of Health, Stanford University. Foreword by Ray Lyman Wilbur, M. D., Chancellor, Stanford University. Cloth. Price. \$3.00. Pp. 308. Stanford University, California: Stanford University Press, 1943.

"Of the making of books" once observed sage old Dr. Samuel Johnson, paraphrazing Holy Writ, "there is no end." Had anyone pressed him, he undoubtedly would have made the selfsame ob-

servation regarding the printing of newspapers, general magazines and publications devoted to specialized fields. And, were he writing today, he undoubtedly would comment also upon the voluminous output of radio talks, addresses to visible audiences and other observations upon the passing scene. The average busy man or woman has neither the time nor the means to do more than nibble at this heavily laden literary table and perforce must miss much that is good while availing himself of much that is not at all to his taste.

It was to make the task of literary assimilation and digestion easier that we had, until recently, The Literary Digest and now have Time, The Reader's Digest and a number of other publications seeking to separate the wheat from the chaff of current literature. That is why we have book reviews, capsule versions of scientific articles, and full-length novels boiled down for single-sitting reading. And it is also responsible for Health Instruction Yearbook.

Dr. Byrd has examined everything he could get his hands on in the field of health and selected for inclusion in this fairly large volume those articles, speeches, radio talks, editorials, etc. which he considered worthy of calling to the attention of the national and international public which will read his book. These-300 of themhe has classified and brought together under twenty general headings, each having to do with the health of the individual or that of society. Under "Fatigue and Rest," for example, we find "Fatigue in Industry," "Australian Fatigue Study," "Rest for War Workers," "The 40-Hour Work Week," and "Seven-Day Week Abandoned in Britain." As a rule, the author, or more acin Britain." curately, the compiler, summarizes the statements and observations that have appealed to him, instead of quoting them in whole or in part. He is quite generous in awarding credits, how-

Apparently, the only Alabamian represented in the Author's Index is Dr. B. F. Austin, State Health Officer, whose radio talk (over Station WSFA) on "Health in Rural Alabama" is in part quoted and in part summarized.

Dr. Byrd plans to follow "Health Instruction Yearbook, 1943" with "Health Instruction Yearbook, 1944," and thus get under way an annual compilation of current health material. Physicians, students and the everyday layman wishing to keep abreast of the latest written and spoken thoughts of health officials and others will want to reserve special shelves for these and add to their collections of yearbooks as faithfully as the newspaper writer or editor builds up his collection of World Almanaes.

John M. Gibson.

NEXT ANNUAL MEETING OF THE ASSOCIATION MONTGOMERY, APRIL 18-20, 1944

AMERICAN MEDICAL ASSOCIATION NEWS

LEARN TROPICAL AND SUBTROPICAL DISEASE, CIVILIAN DOCTORS TOLD

SUBCOMMITTEE OF NATIONAL RESEARCH COUNCIL ADVISES FAMILIARITY WITH THE AILMENTS RETURNING TROOPS MAY BRING HOME

American civilian physicians are advised by the Subcommittee on Tropical Diseases of the National Research Council to be familiar with the tropical and subtropical diseases that may be imported to this country by returning members of the military forces of the United States.

In a statement, approved by the Division of Medical Sciences of the National Research Council and the Surgeons General of the Army, Navy and Public Health Service and published in The Journal of the American Medical Association for December 18, the Subcommittee says:

"The military forces of the United States operating in tropical and subtropical areas are exposed to a number of diseases which occur only in those areas or are much more prevalent there than in this country. Some of these diseases will be brought back to this country in returning military personnel and may be seen by civilian practitioners of medicine either in persons infected abroad or in persons to whom the diseases have spread from the original cases. It is important that physicians be familiar with the diseases which may be imported, and that they be on the alert to diagnose and treat them correctly and to prevent their spread.

"Malaria is the most important of these diseases. In most tropical regions Falciparum malaria, the severe form of the disease, predominates. Vivax malaria is also common. Malariae malaria is relatively rare, and ovale malaria is very rare. Neither quinine nor atabrine prevents malarial infection. Suppressive treatment, formerly incorrectly termed 'drug prophylaxis,' will usually prevent clinical symptoms and keep infected persons on their feet as long as they continue such treatment, but many of them came down with clinical malaria within a few weeks after stopping treatment. Such

cases are more likely to be caused by Plasmodium vivax than by Plasmodium falciparum. Vivax malaria is prone to relapse several times even after supposedly adequate courses of treatment. Some military and civilian personnel, returning to this country by air, become infected while stopping in highly malarious areas en route. These persons have their first attack of malaria,, usually falciparum infection, after arriving in this country. The symptoms may be obscure and the disease suspected, and coma or even death may ensue before the diagnosis is made.

"Malaria should be suspected in every person returning from the tropics or subtropics. The disease may simulate almost any acute or chronic abdominal condition, upper respiratory or pulmonary conditions, meningitis, encephalitis, coma from other causes, or primary or secondary anemia. . . . Species identification should be made by a competent technician, and the disease should not be excluded until several blood examinations have been made at intervals of six to twelve hours. Vigorous treatment must be instituted promptly to avoid fatalities and to diminish the incidence of relapses.

"It is possible that local outbreaks of malaria may occur in this country, starting from relapsing cases acquired abroad. The United States Public Health Service recognizes this possibility, is already cooperating with certain states in intensive anti-mosquito programs and is prepared to act vigorously if epidemics occur. Physicians can cooperate in avoiding such occurrences by the early diagnosis and reporting of cases, by adequate treatment and by preventing access of mosquitoes to infected patients.

"Individuals without clinical malaria but in whose blood malarial parasites are found should be treated immediately or kept under careful observation.

"Bacillary dysentery is usually an acute disease but may become chronic or give rise to carriers. The use of sulfonamide drugs will undoubtedly diminish the probability of chronic or carrier conditions . . ."

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THE APPENDICITIS PROBLEM

AN ANALYSIS OF 1.752 CONSECUTIVE APPENDECTOMIES

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The high mortality of appendicitis continues to be a serious problem before the profession. Numerous papers have appeared on this subject in the literature of the past ten years. Several of these emphasize disagreement as to what constitutes proper treatment of the complicated cases, but all series of cases afford the opportunity for helpful analysis, comparison and criticism. The exact mortality is somewhat difficult to determine since published statistics reveal a wide variation in death rate depending upon the method of classification, the types of cases and different methods of treatment. Regardless of whether the mortality of appendicitis has been rising during the past decade, none of the writers assumes an attitude of contentment with present day results. It is admitted that about twenty thousand deaths occur annually in our country from this disease, the great majority of which could have been prevented.

It is stated that the mortality is out of keeping with improvement in diagnosis and operative treatment of the condition. But we doubt if there has been any special advancement in the diagnosis. Most authorities state that typical cases seen early should present no problem in diagnosis in the hands of a competent surgeon, while others remind us that the typical history and findings are not present in over 40 per cent of genuine cases. The typical clinical picture is so well

The opinions and views set forth in this article are those of the writer, and are not to be considered as reflecting the policies of the Navy Department.

known as to belong to the kindergarten of medical knowledge. The late Dr. John B. Murphy, most distinguished surgical teacher of his time, had these facts assembled in a memory helper for his students, which is very interesting and not generally known. The sentence "Pat Norton Follows Many Lawyers' Cases" was employed. While perfectly meaningless, it is easy to remember. The first letter of each word in this sentence is the first letter of an important symptom or finding in acute appendicitis. The P is for pain, first diffuse across the abdomen or in the epigastrium, later localizing in the right lower quadrant. N is for nausea and vomiting, F for fever, M for muscular spasm or rigidity, L for leucocytosis and C for constipation, or at least not diarrhea. It has been suggested that another word beginning with T for tenderness should have been included in the original sentence, since Mc-Burney point tenderness is present more often than right rectus spasm and rigidity. Murphy however included this point in his palpation of the rectus muscle for spasm, so that his summation of the typical clinical picture remains practically the same today.

PREVIOUS TROUBLE

This review includes all the appendectomies performed at the Naval Hospitals, Pearl Harbor, T. H. from January 1, 1940 to June 1, 1943—a total of 1,752. No incidental appendectomy performed in the course of laparotomy for some other disease has been included. Certain factors in the history have been studied in order to evaluate their im-

portance. In 64% of patients there was a history of one or more previous attacks, the present one usually being most severe of all. The incidence of appendicitis is therefore much higher than would be indicated by vital statistics because of the large number who do not come to operation unless they have had previous attacks. One attack is known to predispose to another, and recurrence is the rule.

CLINICAL CLASSIFICATION

			No. of	
			Cases	Death
[,	Ch	ronic appendicitis	489	0
II.	Ac	ute appendicitis		
	A.	Involving the appendix		
		only, catarrhal, suppur-		
		ative and gangrenous	1,167	0
	B.	Extra-appendiceal ex-		
		tension, abscess and lo-		
		cal peritonitis	87	0
	C.	Generalized peritonitis		
		originating from the ap-		
		pendix	9	2
		-		

The duration of the disease is one of the most important factors in prognosis. In the great majority of cases of this series the time from the first appearance of pain until admission to the hospital has been definitely stated. In Group A cases, the average was 19 hours. In roughly half of these, the duration was 12 hours and under.

In ten of the cases of Group B which had been treated expectantly aboard ship, the duration was from 5 to 14 days. These cases are not included in the general average duration for this group, which was 31 hours. In about half of these cases the average duration was 24 hours and less. In two of the cases of general peritonitis the patients would admit being sick only three days.

SYMPTOMS

The most constant symptom is, of course, that of abdominal pain. In about half of the cases this started suddenly, was colicky in nature and first diffuse across the abdomen or in the epigastrium, later localizing in the right lower quadrant. In the other half the onset was gradual, described as more of a bellyache or gas pains. When there had been previous similar trouble the pain was more likely to be felt in the right lower quadrant early. In only rare instances was the patient doubled up, or lying on his

right side, with thigh flexed, which is regarded as the typical posture of acute appendicitis. Roughly 62% admitted soreness in the right lower quadrant.

Nausea was present in 64% of cases and vomiting in 34%. This incidence may be low due to the fact that chronic cases are included, and to the short interval the disease had been present in the acute cases. Dietary indiscretion was of very little importance as an explanation of the digestive disturbance.

A very happy finding was the low incidence of purgation. Only 24 patients are stated to have taken purgatives before arrival at the hospital. This group is so small that no conclusions can be drawn. In fact, the bowel condition in these cases was practically the same as those who gave no history of having taken purgatives, so that purgation could not have been extreme. About the same number are stated to have had enemas before entrance. Patients stated that the bowel function was normal in 83%, tended toward constipation in 11% and that diarrheal stools had been passed in 6%. The very low incidence of diarrhea must be considered a very favorable factor in recovery. Purgation has been blamed for many years for increasing the spread of peritonitis and interfering with the possibility of localization because of stimulated bowel action. It also adds to procrastination. Probably the delay amounts to 24 hours per purgative in civilian practice in some localities in order that all may watch for the ease and improvement expected to follow.

PHYSICAL EXAMINATION

Fever usually develops after the first few hours in the acute cases. In uncomplicated cases it is usually mild. The absence of fever may be misleading and not a true index of the severity of the process. A normal temperature and gangrenous or ruptured appendix may coexist. In all cases temperatures were recorded on admission to the hospital. In Group I, the chronic cases, there were subnormal temperatures and slight elevations with an average slightly under 99 degrees. In Group A of acute cases the average was 99.2 degrees. In Group B, the abscess cases, the average was 100.3 degrees. In Group C the number was so small and complications such as to make the admitting temperature of no value. However, these

relatively low temperatures impress the fact that high fever is usually not associated with appendicitis until a complicating peritonitis develops, or may be due to coexisting pathology not related to the appendix.

The most constant physical sign was localized tenderness at McBurney's point. This tenderness is not always appendiceal however, since it was present also in the chronic cases as often as in Group A of the acute cases. Comparative percentages would be misleading because of the large number of physicians doing examinations and the variable pressure employed in attempts to elicit tenderness. Obviously when the pressure is too heavy handed the normal individual is likely to complain of pain. Appendiceal tenderness may also be present at other places than McBurney's point depending on the position of the appendix.

Spasticity of the right rectus muscle is a valuable sign, and attempts to elicit it should be made with great care. Gentle palpation of the relaxed abdomen may reveal a firmer tone in the lower half of the right rectus as compared to the left, usually due to reflex spasm. This condition may be so marked in peritoneal irritation as to cause rigidity of the entire right rectus and sometimes of both recti. The exact point at which spasticity stops and rigidity begins is hard to determine. Where this feature is recorded the word spasm is used seven times as often as rigidity. In Group I, spasm or rigidity or both were recorded present in 26% of cases; in Group A 70% and in Group B 82% of cases. Rebound tenderness was present in 56% of the cases of Group A. The psoas test was mentioned so rarely as to be of no value. Rectal examination is valuable in that it may demonstrate greater tenderness on the right side. This feature was mentioned so infrequently that we could obtain no statistics of value.

LABORATORY EXAMINATION

The leucocyte counts herein considered were those taken upon admission to the hospital. In Group I, the chronic cases, the average total count was 8600 with 58% polymorphonuclear leucocytes. In group A, of the acute cases, it was 13,700 total with 74% neutrophiles, while in Group B the average was 15,500 total and 78% neutrophiles. Although the leucocyte count is a valuable diagnostic aid, conclusions drawn from it

should be guarded and considered in connection with the composite picture. When the patient's resistance is low the blood count may be low, and high counts may be due to other than appendiceal pathology.

It is thus seen that all the signs and symptoms making up the clinical picture of appendicitis are not constantly present. Fever is not always a clinical manifestation, nausea and vomiting are often absent, a significant leucocytosis does not always occur, and sometimes the degree of tenderness may not be convincing. Diagnostic features most constantly present in this series of cases were (1) abdominal pain, (2) McBurney point tenderness, and (3) absence of diarrhea.

DIAGNOSIS

Several patients admitted to the general surgical ward with tentative diagnosis undetermined appendicitis, appendicitis acute, and appendicitis chronic were found upon more thorough study to be suffering from other conditions and the diagnosis changed. It is interesting to note the final diagnosis in such cases. The most frequent confusion is with diseases of the urinary tract, as pyelitis, pyelocystitis, right ureteral stone, prostatitis, chancroid of the penis, acute gonorrheal urethritis, acute gonorrheal epididymitis and seminal vesiculitis. Diseases of the digestive system include cholecystitis, cholelithiasis, pancreatitis, acute gastro-enteritis, entero-colitis, colitis, peptic ulcer, intestinal obstruction, food poisoning, constipation and fecal impaction. Oxyuriasis of the appendix was diagnosed three times by the laboratorv.

Respiratory conditions were much less frequent, acute catarrhal fever and pleurisy being the only ones encountered. Miscellaneous conditions include contusion of the abdomen, indirect right inguinal hernia and hypertrophic arthritis of the spine.

The fact that so many conditions were confused with appendicitis merely demonstrates the wisdom of those who have made the admitting diagnoses. Where the diagnosis has not been obvious, the condition of greatest importance has been properly recognized to be acute appendicitis.

TREATMENT

All cases of this series came to operation as soon as the diagnosis of appendicitis was made. When the diagnosis was acute, operation was performed immediately. If not acute, the operation was performed on the next elective operating day. In case of doubt, in which an accurate diagnosis of acute appendicitis could not be made but in which there was a presumptive evidence of appendicitis, operation was also done as an emergency. The error of operating in a case of doubtful diagnosis in which the appendix is found blameless is far less serious than failure to operate upon a patient until serious complications are required to prove the presence of the disease.

These operations have been done by all members of the surgical staff, both seniors and juniors. Most of the cases in which no complications were expected were operated upon by the juniors usually assisted by the seniors. During this period appendectomies were performed by forty nine surgeons who have seen service in the general surgical wards. These excellent results therefore do not reflect credit upon any particular individual, but rather speak for the efficiency of the organization of Navy medicine.

Spinal anesthesia has been found ideal in the handling of these cases. Disadvantages are the occasional retching and vomiting during operation, which might conceivably tend to spread peritonitis, and the occasional rare postspinal headaches. Regional and local novocaine infiltration have been employed, but the quality of anesthesia is far inferior and often a contest to see how much pain the patient can stand. Spinal anesthesia was employed in 79% of cases and regional infiltration in 20%. There were 1.2% of failures in the spinal anesthesias and 6% of failures in regional infiltration anesthesias, necessitating the addition of inhalation nar-Spinal anesthesia was induced with 150 mgm. of novocaine crystals dissolved in the patient's spinal fluid. In regional infiltration 50 to 110 cc. of one per cent novocaine solution were employed.

Advantages of spinal anesthesia are better relaxation of the accessory muscles of respiration and abdominal muscles thus permitting a maximum of visualization of the peritoneal cavity. In addition, absorption is diminished because of the minimal excursions of the diaphragm and anterior abdominal wall. The inflamed appendix can be better outlined and exploration be more safely done. Sometimes a mass can be outlined by

palpation or be seen protruding above the normal contour of the abdomen before making the incision. The relaxed and quieter abdomen permits better palpation of the intraperitoneal pathology with less likelihood of any spread.

The incision of choice in most all cases was the McBurney. This gridiron, or muscle splitting, incision was employed in 95% of the cases in which the type of incision was recorded. In a few instances a modified Rocky or Davis incision was used. The right pararectus or right rectus muscle splitting incision was employed in a few cases requiring more extensive exploration of abdominal contents. We believe the McBurney incision should be used whenever possible. It gives direct approach with minimum trauma and contamination of the peritoneal cavity, permitting removal of the appendix with minimum exposure of the intestines and less likelihood of troublesome abdominal adhesions. It permits the insertion of drains without danger of evisceration or much danger of postoperative hernia and permits wound closure without constriction of tissues. Statistics show fewer postoperative ventral hernias following drained McBurney wounds than with any other type of infected laparotomy incisions. A general exploratory incision is very seldom indicated in these otherwise healthy young men of the Navy.

The appendix in all cases has been removed by ligation of the stump without inversion. Great care should be taken to prevent the mesoappendix from separating too widely from the base of the appendix thus exposing raw surfaces and provoking hemorrhage. It is important to leave a minimum of raw surfaces. A second tie around the stump may also be made to include the end of the mesoappendix in such a way that all raw surfaces are bunched and infolded. This feature is of importance in preventing the formation of adhesions and the possibility of late intestinal obstruction. The appendix should be removed in all cases wherever possible. Mere drainage alone in the case of appendiceal peritonitis is not sufficient since the source is left undisturbed and there is nothing to prevent the further pouring out of fecal and septic material into the peritoneal cavity. However, if the surgeon thinks that by removal of the appendix he will convert an abscess into general peritonitis, he should drain only and remove the

appendix at a later date. Such cases must be decided on individual merits. Preliminary drainage of abscess was performed in only ten cases. Five of these were performed aboard ship and transferred to the hospital for convalescence and later appendectomy. Of the remaining five drained in the hospital, four were abscesses and one general peritonitis. Secondary appendectomy was performed on an average interval of 8 weeks after the drainage operation. All made satisfactory recoveries.

Drainage with appendectomy was employed in only 127 cases. Sixty seven cases of appendiceal abscess, Group B, were drained and 20 were closed without drainage. All 9 cases of general peritonitis were drained liberally. In 31 cases of Group A, drainage was instituted because of purulent fluid or exudate extending beyond the limits of the appendix. The tendency of recent years has been to drain less frequently, even before the advent of the sulfonamide drugs.

SULFONAMIDE THERAPY

The indications and possibilities for the use of sulfonamides in surgery have not yet been established, but already it appears that no single factor has played so important a part in reducing surgical complications and mortality in the period of time that it has been used. While sufficient time has not elapsed for the compilation of large series of cases with controls by any one individual or institution, many surgeons agree as to the efficacy in the treatment of wounds already infected. The trend is clearly that sulfanilamide is a very valuable weapon in the treatment of potential or established peritonitis.

The sulfonamides were employed in only 203 cases of this series. In 40 cases these drugs were given orally for complications and concurrent conditions, such as bronchitis, pneumonitis, sore throat, gonorrhea, pyelocystitis, and undiagnosed febrile conditions with leucocytosis, presumably incipient unlocalized infections. Sulfanilamide and sulfathiazole were given orally in large amounts in 21 cases of infected and abscessed wounds which had not been drained at operation. In 142 cases, sulfanilamide powder has been employed locally inside the peritoneal cavity in the treatment of potential or established peritonitis. From four to twelve grams have been dusted over the structures contiguous to the appendix and

the walls of the abscess cavity, also sprinkling incised surfaces of the abdominal wound liberally. This was usually followed up after operation by large doses of sulfanilamide and sulfathiazole orally. Ninety six of these were drainage cases. In the 46 cases that were closed without drainage, 8 incisions became infected and abscessed during convalescence. This is a much higher percentage than the incidence of this complication for the entire series of Group A, but many of these cases would have been drained at operation had not the sulfanilamide been available.

Several surgeons reporting on the value of sulfanilamide in the treatment of appendicitis are agreed as to its merits and mention very few, if any, disadvantages. There is still some disagreement, however, on such important points as to whether the powder should be employed locally, and those who rely entirely on optimum blood concentration induced by oral and intravenous administration. In this series of cases both the employment and discontinuance of these drugs have been based largely on clinical impression and probably not correlated often enough with laboratory determinations of blood concentration. We favor the continued use of sulfanilamide powder locally, however, and believe that such procedure usually makes the intravenous use unnecessary.

COMPLICATIONS

Complications have been very few, especially the more serious ones. Serous and serosanguinous drainage from primary closures were observed in 74 cases. There were 21 cases in which a hematoma had to be evacuated. In 46 cases the drainage was purulent, thus constituting abscessed incisions. These cases of abscess all belonged to Group A in which the incision might have been contaminated by the diseased appendix at operation. In only 5 of these cases was the wound dusted with sulfanilamide powder during closure. We believe that in all such cases a more liberal dusting of sulfanilamide powder might reduce this complication.

Phlebitis of the femoral vein occurred 5 times. Chest complications were surprisingly few, there being no pneumonia. Pneumonitis and bronchitis were of concern in only 8 cases. Pulmonary atelectasis was

diagnosed by x-ray in 9 cases. Postural drainage, expectorant cough mixtures, and oxygen inhalations controlled the situation adequately without the need of bronchoscopic manipulation.

Convalescence was complicated by fecal fistula in only 4 cases. Three healed promptly while the other persisted. A secondary closure was performed in the latter, which promptly abscessed and recurred. We believe that operative closures are rarely indicated and that in most instances these fistulae should be left severely alone.

Subphrenic abscess was a complication and surgically drained in three instances. In two cases a pelvic abscess had to be drained. General peritonitis must also be regarded as a complication in one case. In this case an appendectomy with the removal of a gangrenous appendix was followed by closure without drainage. When symptoms of peritonitis appeared the incision was opened and liberally drained.

The general diffuse peritonitis group includes only nine cases. In 8 more cases the surgeons' notes stated general peritonitis, but we do not believe that clinical findings, pathologists' diagnosis and postoperative course justify this classification, so that they have been included in Group B, appendiceal abscess.

These cases of general peritonitis were very serious upon arrival in the surgical ward, with the one exception already mentioned. Of the two fatal cases liberal use of sulfanilamide was made in one. Of the remaining 7, two were treated by preliminary drainage and secondary appendectomy 60 days later. In the remaining five, appendectomy and liberal drainage were performed at the same time. In all five, sulfanilamide was used very liberally both locally and internally.

POSTOPERATIVE CARE

Loss of body fluids may result in dehydration manifested by dry inelastic skin, parched tongue and low urinary output of highly colored, concentrated urine. The intravenous administration of glucose in saline solution by slow drip may be used continuously if there is need and should be started promptly. The total amount of fluid required for each 24 hours may be as high as 3,000 cc. If the urinary output is adequate the patient is usually in a state of water bal-

ance. When fluid lost by the gastrointestinal tract is considerable, hypochloremia may develop. Determination of plasma chlorides therefore is valuable. An excess of chlorides is also to be avoided since a surplus amount may be responsible for retention of water in the tissues.

When there is shock or when serum protein determinations give evidence of hypoproteinemia, blood and plasma transfusions are indicated.

Transnasal duodenal siphonage after the method of Wangensteen, sometimes with the Miller-Abbott tube, is very frequently employed in combating gastric retention and abdominal distension. In certain cases drugs such as eserine, pitressin and prostigmine seem to be of value. Heat applied to the abdomen is also of value. It may be applied as stupes, massive hot dressings, electric pads, or the electric light tent.

As soon as the effect of spinal anesthesia wears off, Fowler's position with knees partially flexed provides the most comfort and probably aids in localization of purulent exudates. Breathing is greatly facilitated and muscles of the abdominal wall are more relaxed thus reducing abdominal discomfort.

Oxygen therapy is sometimes resorted to when there is tendency to cyanosis or breathing is difficult. While this may be due to simple mechanical interference with respiration, it may also indicate a pulmonary complication or failing circulation. Oxygen is usually administered by means of the oxygen tent.

Blood transfusions are of value in combating the anemia which may develop during the course of severe infection and also help to keep plasma proteins at the proper level. It is important, when sulfanilamide is being used, to have frequent blood counts of both red and white cells and hemoglobin determinations. Any depletion may be an indication for transfusion.

Sufficient morphine is administered to keep the patient comfortable.

EARLY VERSUS LATE OPERATION

The question of the so-called conservative or expectant treatment of the acute fulminating cases has been considered. While there was no mortality in the Group B cases, appendiceal abscess with local peritonitis, this group is small compared to others re-

ported in this classification, due to more frequent and earlier appendectomy. Peritonitis of a variable degree was present in most fulminating cases and we feel unable to judge which of these cases may localize safely and which may become a spreading peritonitis. In many of the Group A cases the appendix was diffusely suppurative with extension of inflammation to regional structures, often with sero-fibrinous and fibrinopurulent exudate, but no frank extraappendiceal pus. These cases are rather difficult to classify but have been conservatively placed in Group A. In all these cases the prompt removal of the diseased appendix with as little trauma as possible, with drainage when necessary and the application of sulfanilamide powder when indicated, resulted in recovery. In the later cases with definite abscess formation, appendectomy, drainage and sulfanilamide also resulted in 100% recoveries. The localized abscess was not converted into generalized peritonitis in a single instance.

We believe in the early and immediate operation of acute appendicitis without too much regard as to how ill the patient may seem. Since the process within the appendix cannot be forecast with accuracy by the clinical manifestations, by the same token the turn an acute inflammatory process may take outside of the appendix cannot be anticipated with certainty. The duration between the onset of symptoms and the time the patient is first seen by a surgeon is a most misleading basis upon which to predict the severity of appendiceal disease. Therefore the time factor cannot be used as the sole basis for determining whether the conservative method shall be followed in a given case.

Palpable masses in the right lower quadrant do not insure the presence of an appendiceal abscess. The mass may be due to cecal stasis, coils of ileum or matted omentum which does not contain the appendix. A notable feature in this series of cases was the absence of palpable masses, where this feature was mentioned. In 14 cases of chronic appendicitis, 39 cases of Group A, and 16 cases of Group B, the presence of a mass was noted. The palpable mass in this series therefore indicated appendiceal abscess in roughly one third of such cases, while in the group of 87 proven appendiceal

abscess a mass was palpable only 18 times, or 20% incidence.

The controversy on the relative merits of early and late operation may lead to a more widespread belief that any case of appendicitis can be indefinitely postponed. In fact, after being guided safely through the dangerous stage, the patient may question the need of any surgery at all. Neither can some patients in civilian practice understand why they should be hospitalized except for operation and would rather be given expectant treatment at home. It is not rare to meet laymen and medical men outside of the Navy who inquire about the new treatment of appendicitis without operating. The dictum of "too late for early surgery and too early for late surgery" is a bit paradoxical and difficult to explain, especially by the surgeon who has always been an advocate of earlier and more frequent appendectomy.

Among those who favor the delayed operation, however, are professors of surgery with their well-staffed university hospitals. They usually state that this form of therapy must be very closely watched, and the surgeon be prepared to abandon it if it becomes apparent that the patient is made worse by its use. There is the obligation of constant vigilance and many laboratory checkups if the method is to be of value. It might thus be a dangerous type of treatment for the busy general surgeon, the occasional operator, the cross-roads' surgeon and the medical officer afloat. It has been emphasized many times that an early appendectomy by the amateur is far preferable to an operation by the master surgeon after perforation has taken place.

DISCUSSION

There are many reasons why the mortality in civilian practice should be higher than in the Navy. The eternal delay in civilian practice is usually due to fear of operation, financial expenses involved, ignorance of true meaning of the symptoms, and the use of cathartics as a cure-all for bellyache. In this series of cases all were hospitalized as soon as appendicitis was suspected, with the exception of those few patients aboard ship treated conservatively until arrival in port. All faced the operation with courage and confidence. There is no separation in the ward of preoperative patients and those who have been operated on, so that all have the

opportunity to visit freely and privately. Patients know they are getting skilled advice and care without cost. The medical officer who advises the Navy man has no financial and sentimental reason in deciding whether the patient should have medical or surgical treatment, or whether he should even be hospitalized. Most Navy men have themselves been made to understand that abdominal pain may mean appendicitis, that catharsis is dangerous, and that operation is the treatment.

Our patients of the Navy are in otherwise good physical condition and thus good surgical risks. The age group is also favorable, 82% being between the ages of 18 and 25 years inclusive. It is well known that the greater mortality is in the two extremes of age. The great number of interval and questionable appendectomies in this series also reduces the death rate. Once in the hospital with diagnosis undetermined appendicitis of record, a surgeon is apt to feel that he is taking an unwarranted responsibility for the

man's future health in sending him back to duty without appendectomy.

SUMMARY

A series of 1,752 consecutive appendectomies with only two deaths is reported.

Among favorable factors may be mentioned the age group, the short duration of symptoms and absence of purgation.

Spinal anesthesia was the anesthetic of choice.

The McBurney incision was employed in nearly all cases.

The liberal use of the sulfonamide drugs locally and internally has been of value.

In postoperative care, Wangensteen siphonage, the Miller-Abbott tube, intravenous solutions, blood and plasma transfusions, and the oxygen tent have been frequently employed.

Immediate intelligently applied surgery remains the treatment of choice in appendicitis. It is apparent that removal of the appendix in civil life should be made on lesser indications than is customary at present.

INFECTIOUS PROCESSES COMPLICATING AND SEQUELAE TO CLEAN SURGERY

HEALING BY FIRST INTENTION

E. V. CALDWELL, M. D. Huntsville, Alabama

My interest in this subject has gradually grown more intense during my 28 years of surgical experience. Many times during this period have I operated on patients whose history, symptom-complex and present laboratory findings seemed to justify a good to excellent prognosis following surgery only to be disappointed when, from a week to two weeks after operation, even though the operative wound would be healing or had already healed by first intention, infectious processes would be initiated in other parts of the body which would increase the morbidity to an embarrassing degree, or death from exhaustion would occur from repeated foci of infection. Death will occur occasionally in spite of good nursing, physician care, and the use of blood, plasma, glucose and chemotherapy.

This subject is not new by any means; its discussion is spread all through the literature under various subject heads such as "The Hidden Dangers of Surgery" or "Infections Complicating Surgery." But all the discussions treat the subject from the complications of surgery standpoint, including in a series report all kinds of clean and infectious surgery. None of them has discussed this subject from a clean surgery standpoint, nor presented a study of clean surgery, healing by first intention, followed by infectious complications in other parts of the body. In a large percentage of the series reported, active foci of infections were known to exist at the time of operation. For example, the Mayo Clinic reports a series of between four and five hundred cases with a good percentage of postoperative infectious processes—but a large percentage of this series was surgery on known active infections such as cholecystitis with and without

^{*}Read before the Northeastern Division of the Association, Anniston, December 1, 1943.

stones, active ulcers of the stomach, cancer of some portion of the intestinal tract; and only a small percentage was surgery done on clean cases such as hernia, or appendicitis operated on in the interim and in the quiescent state with low white count; and the study was made for the purpose of showing which operations were followed by complications most often and not to determine why clean surgery was followed often by serious infections in parts of the body other than the operative field which healed by first intention.

These studies establish the fact that the most frequent complications are pneumonia with or without pulmonary abscess, pleurisy with or without effusion or empyema, thrombosis with phlebitis, pulmonary or cerebral infections, or embolic death, and parotitis. It may be stated by some that in these cases a more thorough history and physical examination might eliminate these complications and sequelae. It is admitted that the history and physical examination, more carefully taken and made, would eliminate many of them, but even then there still would be many that could not be prevented or explained. The American College of Surgeons and the American Medical Association believe that complications, sequelae and deaths can be prevented by proper history, physical examination, laboratory findings and improved surgery, and their grading of hospitals has been and is based on this idea and has accomplished great improvement in hospital equipment, service and surgery. But even then there are many complications, sequelae, and even deaths unexplained.

I do think that in smaller hospitals, where surgical cases are not checked by medical, laboratory and x-ray consultations before operation, complicating processes are overlooked more frequently than in larger hospitals where there is greater check on all surgery done. And I am becoming more convinced that every case of surgery, especially clean surgery where there is no rush, should be most carefully searched both from the standpoint of history and physical examination, with laboratory findings, before even sending a patient to the hospital for surgery, in an effort to reduce to a minimum complications, sequelae and deaths. I am afraid too many of us take our clean surgery too lightly. So often we find a hernia and tell our patient to go on to the hospital and we

will fix him up. The person seems well and hearty and we do not go into his family history nor search him for foci of infection, and many times both we and the patient and family are disappointed in the progress of the case. However, even after careful history taking and physical and laboratory examinations, there will occur unforeseen, unexpected, and disappointing complications and sequelae.

This subject is not discussed as a criticism of surgeons or hospitals in any size group but is brought to you in the hope that it may suggest better presurgical investigation of the patient, his family history and his surroundings, particularly in clean cases where there is no need for hurry, before hospitalization and operation, and also a demand from the profession for better hospital facilities and service, and, last but not least, better surgery.

To demonstrate the unforeseen and disappointing complications and sequelae of surgery, I should like to report two cases: one resulting in death and the other in greatly increased morbidity.

REPORT OF CASES

Case 1. Male, 59 years of age. Lawyer. Graduate, University of Virginia. Rhodes scholar. From a family in the higher bracket of financial and social life. Always lived a sober, well-balanced life. Family history: He was in the third generation of a family of original settlers of Alabama, a hearty stock 3 generations back. His mother lived to 86, dying quickly with cardiac failure and was active and hearty till after 80. His father died at 82, was well all his life till after 80 and starved to death from paralysis of the muscles of the throat. He had 4 brothers and no sisters: one brother died in young manhood of pulmonary tuberculosis; one brother died at 47, this year, of peritonitis from a ruptured gallbladder; and one brother is living at about 65 and has a cardiac disability. Another brother also is living but has lost most of the tongue and all cervical glands from carcinoma but is well at present, 2 years after operation—at age about 45.

The patient's history is that in early childhood he developed a marked lateral curvature of the spine which did not keep him from living a fairly normal childhood and did not interfere with his education and practice of law. He was married and had 3 normal, healthy children. He was of slight build and rawboned and always thin, and of a pale, sallow complexion. He had never had any sickness, other than childhood diseases, influenza, colds and typhus fever, until 5 years ago. He had a double urethra from about 1/3 the distance from the meatus into the bladder which never gave him trouble, having been discovered accidentally. He smoked cigarettes incessantly and had a chronic cigarette cough, which cleared

when he would leave off smoking for as long as 2 weeks. Five years ago he suffered a sudden pain with rigor and fever and rigidity in the lower left abdominal quadrant, and a diagnosis of diverticulitis with local peritonitis was made. He went to the Mayo Clinic where he was treated tentatively and was in the hospital 8 weeks. The peritonitis subsided, but he developed a left pleurisy, severe, but recovered without effusion and returned home recovered. His chest and diverticulosis bothered him no more, and he returned to normal life. While at the Mayo Clinic the coughing produced a small right inguinal hernia which caused him to wear a truss. One Sunday this year the hernia became strangulated and after 5 hours was reduced under profound narcosis. At his request I agreed to operate on the hernia. Blood count normal; urinalysis normal; heart and lungs apparently normal; no cough; no apparent abdominal condition. He had had extractions of all known infected teeth 2 months before the strangulation, and the gums and mouth appeared healed and well. Blood pressure normal. Nine days after the strangulation and the reduction of the hernia, the patient walked into the hospital, apparently well and with a fair or better prognosis. Operation was done under pentothal sodium and oxygen. Bassini's operation was performed. Two days later he developed some cough and a slightly elevated temperature, and chemotherapy was started. The condition cleared promptly, recovery from the operation was uneventful and prompt, and the patient returned home on the 10th day with wound healed by first intention and stitches removed and dressings left off. He sat up the 14th day, and while sitting up had a chill and developed a severe pneumonia with pleurisy and was ill 10 days and did not respond to chemotherapy. This pneumonia was followed by empyema, and pus was withdrawn and cultured by Vanderbilt Hospital Laboratory, and an anaerobic streptococcus was cultured as the predominant infection. A rib was resected under local anesthesia and a Wilson tube was left in. The patient began improving and was eating and sleeping well, and temperature dropped to 99 to 100, when, after 2 weeks, he developed an irritation near the neck of the bladder and 4 days later an abscess was opened which had pointed in the right lower quadrant just above the pubis. It was feared a ruptured diverticulosis from the sigmoid had occurred. The pus was recultured by the Vanderbilt Laboratory, and the same anaerobic streptococcus was the predominant organism with some colon bacilli, and the patient died 3 days later from intestinal obstruction and exhaustion.

Where was that anaerobic streptococcic infection the day I operated? We thought of the infected, extracted teeth 2 months before operation. We thought of the diverticulosis that might have persisted since 5 years before when he had the ruptured diverticulitis and local peritonitis. We thought of the pleurisy 5 years before. We thought and thought, and still we think.

Case 2. A young man, 28 years of age, married, from a family of unusually hearty and tough people, farmers all life for 3 generations. Father died at 78. Mother died early in life from some

generative organ condition, nature of which is not known. Grandparents lived to ripe old age. No family history of tuberculosis or syphilis; no untoward history except all the family drank heavily at intervals.

Patient's own history was that of childhood diseases only, no real illness in life, except during last 3 years had had 3 attacks of appendicitis which were treated medically. The fourth attack was severe, but he refused operation. Three months after the 4th attack, when the crop had been laid by, he requested an operation while his abdomen was quiescent. Blood counts were normal; urinalysis normal; heart and lungs normal as far as could be ascertained. His teeth and tonsils appeared in good condition.

The appendix was removed under pentothal sodium and oxygen, and an uneventful recovery occurred and stitches removed on the 7th day and the wound had healed by first intention. Patient went home and after being up 6 days, without any symptoms of cold or any symptoms of anything wrong in the operative field, he had a sudden pain in the left lung and 2 days later spat blood-stained sputum. About the time he recovered from this, he had a sudden attack of similar nature in the right lung; and when he was about over that attack, he had another on the left side. At no time during this period (about 5 weeks) was there any indication of any trouble at the site of operation or in the veins or blood vessels of the abdomen, or in either extremity. The appendix at the time of operation had a moderate degree of adhesions but nothing difficult. Where was the original clot or infection that mothered the 3 pulmonary infarctions? Was it delayed chronic gut absorption? Or was there a small blood vessel not tied and a small hidden clot finally furnished the floating thrombus? Or was there some focus of infection, not discovered or undiscoverable by the history and preliminary physical examination? This patient recovered and is now in fine health. We still are wondering from where his sequelae or postoperative trouble sprang.

These two cases certainly demonstrate the necessity of a thorough and painstaking examination and history before any operation is done. No surgeon should be too sure there is no danger in even the simplest of operations.

Burns—Skin grafting is indicated in all third degree burns as soon as a granulating surface is present—about ten to fourteen days after the initial injury. Formerly we believed that the area to be grafted had to be free of infection before grafting could be attempted but we have found that many grafts will "take" even though mild infection is present. The percentage of "takes" will be higher if the granulating surface is free of infection, but infection is no contraindication to early skin grafting. We have used the Ollier-Thiersch, the "pinch," the pedicle and the Corachan grafts, but have found the Corachan grafts far superior to other grafts.—Mourot, Virginia M. Monthly, Jan. '44.

LIVER EXTRACT IN ACNE ERUPTIONS, ABSCESSES AND SCARS

THERAPEUTIC ROLE OF EXPERIMENTAL FRACTIONS

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It had been described previously^{1,2,3,4,5,6,7} that various liver extracts produced clinical improvement in patients with acne vulgaris. However, not all commercial liver extracts which we have used contained the active factor or factors which had produced this clinical improvement. Certain refinements in the laboratory preparation of these experimental materials have apparently improved the clinical results.

This article consummates a five-year laboratory and clinical study on this topic.

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Preparations of these liver extract fractions were supervised, in part, by Professor Chester J. Farmer, Chairman, Department of Chemistry, Northwestern University Medical School. Other portions of the laboratory preparations were effected, in part, by the Abbott Laboratories and by the Lilly Research Laboratories, under the direction of Professor Farmer and the author. Professor Emer. Arthur W. Stillians, former Chairman, Department of Dermatology and Syphilology, Northwestern University Medical School, offered much kindly advice and criticism. Profes-

sor E. A. Oliver, Chairman, Department of Dermatology and Syphilology, Northwestern University Medical School, kindly placed the facilities of his department at our disposal for these investigative studies which were completed in the Dermatology Dispensary by the author and also in his private office.

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- 2. Marshall, W.: Further Studies on the Therapy of Acne Vulgaris with Modified Liver Extract, J. Invest. Dermat. 2: 205-218 (August) 1939.
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- 6. Marshall, W.: Old and Modern Treatments for Acne Vulgaris, Tri-State M. J. 14: 2603-2606 (January) 1942.
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TABLE 1 CLINICAL RESULTS WITH AI-3 MATERIAL ON ACNE VULGARIS

				Number	
			Average	Treat-	
Patient	Age	Sex	Dose/Wk	ments	Results
C. K.	17	F.	1.0 cc.	5	Marked improvement
P. S.	16	$\mathbf{M}.$	1.0 cc.	10	Marked improvement
R. G.	18	M.	1.0 cc.	4	Marked improvement
E. E.	29	F.	1.0 cc.	5	Improved
H. S.	24	$\mathbf{M}.$	1.0 cc.	12	Somewhat improved
G. D.	16	F.	1.0 cc.	8	Complexion cleared
G. C.	22	F.	1.0 cc.	10	No improvement
J. R.	18	M.	1.0 cc.	9	Moderate improvement
M. H.	20	M.	1.0 cc.	14	Face nearly clear
O. B.	16	$\mathbf{M}.$	1.0 cc.	8	Slightly improved
Mrs. R. F.	21	F.	1.0 cc.	6	Complexion cleared
Mrs. L. S.	23	F.	1.0 cc.	8	Complexion cleared
J. W.	18	M.	1.0 cc.	8	Moderately improved
T. F.	20	F.	1.0 cc.	12	No improvement
N. K.	20	M.	1.0 cc.	8	Slight improvement
E. B.	17	$\mathbf{M}.$	1.0 cc.	10	No improvement
G. D. B.	19	M.	1.0 cc.	8	Moderate improvement
D. G.	22	F.	1.0 cc.	4	Slight improvement
A. P.	27	F.	1.0 cc.	7	Improvement, followed by relapses
S. S.	33	F.	1.0 cc.	9	Moderate improvement
J. H.	29	F.	1.0 cc.	5	Some improvement, did not return for further treatment because of inconvenience
M. R.	15	F.	1.0 cc.	12	Face cleared
E. C.	17	F.	1.0 cc.	5	Face cleared
R. W.	18	F.	1.0 cc.	8	Marked improvement
F. B.	21	F.	1.0 cc.	5	Slight improvement
					-

After repeated laboratory and clinical work, we prepared a new material which was termed AI-3. The clinical results appear in Table 1.

Summary of Therapy with AI-3—All patients in the series were the "run of the mill." Some had all types of treatments heretofore, including x-ray therapy. Others had no treatment whatsoever. Number of patients treated—25. Ages from 16 to 33. Males 10. Females 15. Number

of treatments—From 4 to 14, which were given at weekly intervals.

Cleared—5
Marked improvement—5
Moderate improvement—7
Slight, or no improvement—8
32%

We followed this study (Table 1) with a different preparation, which was called LYO-6. The clinical results are shown in Table 2.

TABLE 2
RESULTS WITH LYO-6

Patient	Age	Sex	Average Dose/Wk.	Number Treat- ments	Previous Therapy	Results
P. S.	16	M.	1.0 cc.	18	AI-3 (x-ray etc. previously)	Very marked improvement
F. S.	17	F.	1.0 cc.	7		Moderate improvement
M. S.	17	F.	1.0 cc.	5	Lotions, salves	Moderate improvement
R. F.	18	M.	1.0 cc.	6	AI-3	Clear (no active lesions remain)
E. E.	29	F.	1.0 cc.	11	AI-3	Marked improvement, eruptions can be controlled whenever patient comes for treatment
E. H.	17	F.	1.0 cc.	6		Slight improvement
H. V. H.	22	F.	1.0 cc.	21		Clear, scar on nose (old site of fulguration) has con- tracted markedly
B. V.	18	F.	1.0 cc.	16		Slight improvement
F. J.	22	M.	1.0 cc.	12	Salves, lotions	Moderate improvement
R. H.	19	M.	1.0 cc.	11	Salves, lotions	Moderate improvement
J. C.	18	M.	1.0 cc.	16	Salves, lotions	No improvement, dropped from series
H. S.	24	M.	1.0 cc.	5	AI-3	Cleared, but must remain on treatment to prevent relapse
R. V.	19	M.	1.0 cc.	12		Moderate improvement
E. D.	16	M.	1.0 cc.	9		Moderate improvement
C. C.	18	M.	1.0 cc.	11		Cleared
L. C.	16	F.	1.0 cc.	7	Salves, lotions	Moderate improvement
C. M.	15	F.	1.0 cc.	6	Lotion Alba	Moderate improvement
J. W.	18	M.	1.0 cc.	8	AI-3	Marked improvement
J. S.	17	M.	1.0 cc.	7		Moderate improvement
R. W.	17	M.	1.0 cc.	10		Moderate improvement
T. F.	20	F.	1.0 cc.	19	AI-3	Moderate improvement
N. K.	20	M.	1.0 cc.	18	AI-3	Marked improvement
E. B.	17	M.	1.0 cc.	12	AI-3	Moderate improvement
R. P.	17	M.	1.0 cc.	17		Moderate improvement
R. B.	19	M.	1.0 cc.	6	Lotions	X-ray therapy previously cleared face. Back moder- ately improved
G. D. B.	19	M.	1.0 cc.	19	X-ray remission, then AI-3	Very marked improvement
D. G.	22	F.	1.0 cc.	13	AI-3	Marked improvement

Summary of Therapy with LYO-6—Number of patients treated—27. Ages from 16 to 29. Males 17. Females 10. Number of treatments—5 to 19, which were administered at weekly intervals.

Cleared—4 Marked improvement—7	} 24	or	89%
Moderate improvement—13 Slight or no improvement—	·	or	11%

SPECIAL OBSERVATIONS

All observations, carried out at weekly intervals, were checked by photographs. These cases were unselected and were treated routinely with our material as the cases were referred to us. No restrictions, regarding diet, were given to the Appleton

group. The N. W. M. S. dispensary patients were asked to refrain from using the following items: (1) chocolate, (2) nuts, (3) coca-cola, (4) iodized salt. The difference in our two series, concerning this elimination in diet, was not too striking so far as our results were concerned, although it played a role, apparently, as an eruption-provocative agent.

Many patients volunteered that their skins became far less oily, and that, after a series of injections, the comedones were expelled by washing with bland and inexpensive soaps. They washed their faces twice daily and were cautioned not to disturb any lesions by picking them. Nor did we, at any time, open any lesion.

From our observations, it appears that the dictum, perhaps introduced by Ambrose Pare', that of opening all pustules, does not hold in this particular disease. We can state that the scarring certainly is not enhanced by this procedure. Furthermore, patients who have submitted to this procedure elsewhere, welcomed our practice of not disturbing such lesions. The pustules disappeared without opening them.

Many patients verified the point that the deeply indurated lesions had a tendency to become superficial. When these did happen to be opened accidentally, as in the act of shaving, etc., the patients were instructed to apply an alcohol solution (rubbing alcohol) to them with a cotton pledget and to hold it in place until the serum stopped oozing.

Many times our patients would volunteer that a new crop of small pin-point pustules or papules would appear during the course of treatment, only to disappear in a day or two, whereas previously these new lesions would remain stationary or tend to enlarge, and would remain for a duration of several weeks.

It is not our purpose in describing this new therapeutic procedure to advocate the abolishment of any or all current therapies for this disease. We introduce this method purely in the light of a therapeutic adjunct which may be of some use to other dermatologists for the modern treatment of this disease. It may prove to be of merit particularly in those cases where x-ray therapy is contraindicated for one reason or another, or, in cases which, for some reason or other, are not responding to treatment as the therapist desires.

One weekly dose of one cubic centimeter of this material, injected subcutaneously in alternating arms, is purely on a presumptive basis. As a matter of fact, we have witnessed further improvement when this medication is increased to two or three injections per week in particularly obstinate cases. One case required fourteen cubic centimeters per week to prevent recurrence. We are of the opinion that some patients need more of this material than do others in order to allow improvement to continue. Some patients will need continued therapy, after they have cleared, to prevent a relapse. Some cases have suffered a relapse but responded more readily to the second course of treatments than they did to the original series.

This LYO-6 material has been given to some patients orally in the form of capsules. Two capsules of two grains each were administered daily. The results obtained through the alimentary route were adequate. This method was costly and, therefore, not practical. Likewise, the same amount of material was given in the form of suppositories per rectum. The results were comparable to those obtained by the oral method of administration.

In order to check the rather high incidence of satisfactory results with our experimental group, we secured the cooperation of two qualified Midwestern dermatologists. These men employed twenty-three private patients. This part of the investigation was made entirely independently, except for material (LYO-6) which they received from us each week, which was furnished for this investigation. Their findings constitute Table 3A.

TABLE 3A FURTHER FINDINGS WITH LYO-6

					Duna	Dwariana	NTla ana a	Ad-	
			Location	Diag-	tion in	Treat-	Number of Liver	Thera-	
Name	Sex	Age	of Acne	nosis	Years	ment	Injections	py	Results
F. C.	F.	15	Face	Pustular		Salves	10	None	Improved
F. C.	r.	10	racc	1 usturar	. 5	Lotions	10	None	improved
R. J.	M.	18	Face	Pustular	4	U. V.	8	None	Improved
D. B.	F.	23	Face	Cystic	4	U. V.	9	U. V.	Improved
						Lotions			*
F. W.	F.	21	Face	Cystic	5	X-ray	39	None	Cured
						U.V.			
						"Shots"			
0.0	ъл	28	Face & Back	Papular	3	Lotions None	26	U. V.	Constant
C. S. J. S.	M. F.	20 14	Face & back	Pustular		None	20 14	U. V.	Cured Improved
R. L.	F.	22	Face	Cystic	5	X-ray	23	U. V.	Improved
п. ш.	Ε.	22	race	Cystic	Ü	Lotions	20	O. V.	Improved
М. Р.	M.	15	Face	Papular	2	Lotions	7	U.V.	Improved
E. M.	M.	28	Back	Papular		None	7	U.V.	Improved
S. G.	M.	14	Face	Pustular		None	7	U.V.	Improved
R. U.	F.	22	Back and	Papular	4	None	8	None	Improved
			Forehead						
R. K.	Μ.	17	Face	Papular		None	4	None	lmproved
R. J.	Μ.	18	Face	Papular		X-ray	6	U. V.	Improved
K. C.	M.	18	Face & Back	Pustular	$1\frac{1}{2}$	6 X-ray	11	U. V.	Improved
H. W.	M.	16	Face	Cystic Papular	1	None	9	U. V.	Improved
n. w.	IVI.	10	race	Pustulai		None	9	U. V.	improved
K. C.	F.	18	Face	Papular		None	18	U. V.	Improved
11. 0.		10	1 400	Pustulai				0	1111p10 / 0 c
R. F.	F.	21	Face	Cystic	5	X-ray	14	None	Marked im-
						U. V.			provement
						Local			
B. K.	F.	13	Face	Papular		None	10	U.V.	Improved
	-			Pustular		TT T7	0	NT	C11: -1-4 '
T. S.	F.	15	Face	Pustule	3	U. V.	8	None	Slight im-
A D	177	16	Face	Cystic Papular	2	None	7	X-ray	provement Improved
A. D.	F.	10	race	Pustulai		IVOILE	'	21-1 ay	Slight im-
В. Н.	F.	17	Face •	Papular		None	8	None	provement
D. 11.	Ι.	1.	1 400						Slight im-
G. G.	F.	28	Face	Papular	6	X-ray	8	None	provement
				Pustular					
S. F.	F.	16	Face	Papular	1	None	6	None	Slight im-
									provement

S	u	m	m	ar	u

Cured—2			9%
Improved	(moderate or	marked)—17	74
Slight imp	provement—4		17
Total—23			100

These results (Table 3A) were subjected to a statistical study* which was based on an adaptation of the chi square test procedures. The results are given in Table 3B.

TABLE 3B

	Cleared	Moderate or Marked	Slight or No Improvement	Totals
Author's Group	4	20	3	27
Midwestern Group	2	17	4	23
T=Total	6	37	7	50
$R = \frac{M}{T}$.6667	.5405	.4286	.5400
R. M.	2.67	10.81	1.29	14.76

^{*}Courtesy of Professors A. W. Berry and C. D. Flory, Lawrence College, Appleton, Wisconsin.

(27)
$$(.54) = 14.58$$
 0.18
(Chi Square) $X^2 = 0.18$
 $0.54 (1-0.54)$
 0.74

n=2 degrees of freedom (one less than number of columns)

...P=approximately 70%

"That is, in about 70% of cases with chance alone acting, the agreement will be poorer than observed in the present runs. Or, using Culler's† interpretations of P, these results are in the highest bracket of the 'excellent' group. It has been stated that 'if P is between .10 and .90 there is certainly no reason to suspect the hypothesis tested."**

EXPERIMENT TO DETERMINE SKIN-PRESSOR SUBSTANCE IN EXPERIMENTAL LIVER EXTRACTS

It had been noted previously that the complexions of many patients, after receiving injections of our experimental liver extracts, when given subcutaneously, presented a phenomenon in the skin of these patients which resembled a vasoconstricting appearance. The individual's skin pores became prominent, and isolated areas of skin surfaces of the face, particularly the forehead and cheeks, assumed a blanched appearance. These areas of the integument seemed somewhat blanched in these localized areas. The accompanying fine furrowing effect, which seemed to last over 24 hours, followed the administration of the drug.

It was thought advisable to check this observation more acutely by means of a thermocouple, which was made available through the kindness of Dr. Osborn, of the Department of Physiotherapy, Northwestern University Medical School. Accordingly, the author, on January 24, 1941, was given one cubic centimeter of this material while in a recumbent position with the thermocouple in place on the left cheek. The electrode was held firmly in place, and the temperature changes were recorded. initial skin temperature before injection was 99.5°F. Ten and one-half minutes following the injection the temperature dropped to 99.4°F. At fifteen minutes, the thermocouple registered 99.3°F, while at eighteen minutes the reading was 99.2°F, where it remained at a station-level for one-half hour.

†Culler, E.: Studies in Psychometric Theory, J Exper. Psychol. 9: 169-194, 1926.

The subject assumed an upright position, and it was noted that a vasoconstrictor action was present in the complexion of the subject. There was a decided blanching of the face, which was particularly striking on the cheeks, forehead and nasal skin areas of the patient. The nature of these skin changes could be well described by the pincers-like action of these areas of vasoconstriction. The subject walked briskly up a long flight of stairs but this did not cause a change in the appearance of the complexion, nor did the lowering of the head produce a vasodilatation of the vessels of the face (a period of one minute). The action of this pressor-like material seemed to persist for a period of over 24 hours. Other skin areas were not examined.

It has been noted lately that some patients who have been under treatment with the newer preparations of the experimental modified liver fractions of LYO-6 have shown rather striking improvement in regard to the nature of the effect on facial scars. These were formerly deep-seated, prominent, and many times were angular in shape when these patients first reported for treatment. The borders of the scars were sharply demarcated and were many times jagged in nature. But, after some of these patients had received from thirty to forty or more injections of the material, definite changes were noted in the nature of these scars. They became "ironed out" and were shallower and less prominent.

PHYSIOPATHOLOGY OF SCAR TISSUE

The now classic researches of Sherrington and Ballance⁸ give the reviewer a satisfactory background on the formation of scar tissue with regard to the immigrations of leucocytes and of daughter cells of the tissue corpuscles. Plasma cells take the place of the leucocytes at the nodal points after a lapse of seventy-two hours. The latter serve as a pabulum for the active plasma cells which include and ingest the former. Indeed, these investigators have raised the point that these same plasma cells may exert a digestive action upon the material, which they do not accept, by means of a proteolytic ferment. They have described the outlying cells which are disposed along definite lines, which later make up the general plan which

^{**}Fisher, R. A.: Statistical Methods for Research Workers, Edinburgh: Oliver and Boyd, 1938, page 83.

^{8.} Sherrington, C. S., and Ballance, C. A.: J. Physiol. 10: 550-576, 1889.

the adult arrangement of the new fibrous tissue will display. The fusiform fibroblasts slowly exert the same solvent action upon the imprisoned material as did their ameboid (plasma cell) ancestors. They recorded that where the connective tissue corpuscles were proliferating, as for instance within an inflamed area, these tissue-cells were enormously more numerous.

Maximov⁹ summarized his work as follows:

- 1. The polyblasts remain forever in the scar tissue as special cells, which correspond to clasmatocytes of the normal connective tissue and could be always easily differentiated from the fibroblasts.
- 2. The polyblasts surrounding the new formed vessels remain as adventitial cells, which correspond to the clasmatocyte-like adventitial cells of the vessels in normal connective tissue.
- 3. The plasma cells finally disappear from the scar tissue. The greatest part of these degenerate and decompose. Individual cells may probably become transformed into the usual polyblasts.
- 4. In newborn animals the aseptic inflammation and the scar formation have principally the same course as in the adult. The process is only accelerated, the polyblasts may become sessile very early, and may become transformed into fixed cells.
- 5. The local traumatic influence to the scar tissue brings about in itself a new inflammation. whereby there appear the same three main types of cells as in the inflammation of normal connective tissue: leucocytes, fibroblasts and polyblasts. The leucocytes emigrate from the new formed vessels. The fibroblasts originate by the division of fibroblasts of the scar tissue. The polyblasts represent, to a lesser extent, the newly emigrated cells from the vessels, the lymphocytes; we have here mainly the sessile clasmatocytelike polyblasts of the scar tissue, which, under the influence of the new inflammatoy stimulus, became again activated, became mobile and transformed into ameloid wandering cells, exactly as the case is with the clasmatocytes in the inflammation of normal connective tissue. The mutual relations of the fibroblasts and polyblasts are more or less similar during the entire process. The fibroblasts finally build a new tissue which fills up the defect of the scar tissue, and the polyblasts become transformed, in the latter, again into sessile, clasmatocyte-like cells.
- 6. The plasma cells play an insignificant role in the traumatic inflammation of the scar tissue. They behave passively and finally degenerate to a great extent. Individual cells may probably become transformed into usual polyblasts under the influence of the new inflammatory stimulus.

Leriche¹⁰ has contributed a pertinent summary with regard to the pathophysiology of scars. He has written that, hitherto, scars have been regarded as formations with reduced tissue activity of which only physical qualities such as resistance, elasticity, and suppleness are of significance. No great significance was attributed to the underlying sclerosis, although its presence was deplored. Actually, however, both the scars and the underlying sclerosis have lives of their own with intrinsic dynamic forces and represent living tissues in full activity, sometimes with rather complex pathologic conditions. He found myelinated nerve fibers on the scar periphery in the fifth week and throughout the scar after seven months. Scars do not contain tactile corpuscles. Scars, if sufficiently large, may produce peripheral vasomotor phenomena, spasms of the arterioles, cyanosis, and nutritional disturbances of the skin and the underlying connective tissue.

Hughes and Dann¹¹ investigated the vascular regeneration in experimental wounds and burns. Using rats and employing the Krogh (1929) and Craigie (1921) technique, these observers noted dilatation of the capillaries immediately surrounding the wound. In deep wounds, hyperemia of the skin vessels is extreme. A few days later, the dilated vessels unite transversely to form continuous loops. Fibrous tissue and new vessels begin to develop simultaneously on the 4th or 5th day. New vessels are formed very often near an existing arteriole or small artery, indicating that vascularization is promoted by the richer blood supply. Three layers of blood vessels are formed: (1) on the surface of the panniculus, (2) immediately below the panniculus, and (3) from the wavy vessels between the skin and superficial fascia. The first and second layers merge at the cut edge of the panniculus carnosus. In superficial wounds, the contraction causes the cut edge of the panniculus to bend near the surface. This upward bending shuts off the first vessel layer from the main cavity of the wound. There is then

^{9.} Maximov, A.: Beiton. L. Path. Anat. U. L. Allg. Path. 34: 178-186, 1903.

^{10.} Leriche, R.: Physiopathologie des Cicatrices et du Tissu de Sclerose Sous-jacent Etudiec a l'Aide de la Novacainisation du Sympathique, Presse med. 42: 1577-1578 (October 10) 1934.

^{11.} Hughes, A. F. W., and Dann, L.: Vascular Regeneration in Experimental Wounds and Burns, Brit. J. Exper. Path. 22: 9-14 (February) 1941.

an hypertrophy of the second vessel layer.

A thick vascular network gradually grows into the wound from the cut edges of the panniculus. These are made mainly of pointed capillary sprouts (around 6 to 7 days after wounding).

The different areas of vascular tissue continue to spread until they finally fuse. Burns are fully vascularized after 12 to 15 days, according to the size of the burn.

Mosiman, 12 writing on the significance of subcutaneous scar tissue, has mentioned that:

Two types of scar tissue were differentiated as a result of this study: the normal scar tissue with the healing process complete, and the abnormal with evidence of tissue irritation still present. Sections of the former showed collagen fibers, a few fibroblasts and an occasional monocytic cell. Sections of the latter disclosed deposits of mononuclear cells among the fibroblasts and collagen fibers but principally around the capillary spaces. These deposits of mononuclear cells in some areas extended into the underlying tissues.

The presence of these cells indicated that the healing process was not complete. Complete healing indicates freedom in the tissues from perivascular infiltration.

By differentiation many varieties of connective tissue develop from this mesenchyme. The intracellular substance (in the connective tissue proper) varies from a soft jelly to a tough fibrous mass in which at times calcium salts are deposited.

There is a constant exchange of cells between the blood and the connective tissue, and at times it is impossible to separate the one group of cells from the other, unless highly selective methods, such as vital and supravital stainings and tissue culture methods, are employed for differentiation.

Sieve¹³ reported that treatment with 100 mg. of para-aminobenzoic acid, given three times daily, changed the color of a pale abdominal scar, resulting from an old burn, to the color of the surrounding skin after three months of such treatment. He reported that, in some cases, freckles and nevi lost their color and sometimes disappeared almost completely.

Thompson, W., et al., 14 called attention to the fact that the retardation in the healing of wounds associated with hypoproteinemia in dogs may be averted by restoration of the serum protein to normal levels immediately after operation.

Wolbach¹⁵ has stated that among the intercellular substances requiring ascorbic acid for their formation and maintenance are the collagen of all fibrous tissue structures and probably all non-epithelial cement substance, including that of the vascular endothelium.

In another communication, Wolbach¹¹¹ discussed the intercellular substances which concern vitamin C deficiency. They are the collagen of all fibrous tissue structures, the matrices of bone, dentin and cartilage, and all nonepithelial cement substance, including that of the vascular endothelium. The reparative proliferative powers of epithelial cells, endothelium, fibroblasts and osteoblasts are not impaired, while there is evidence of increased proliferation of osteoblasts, which, in the periosteum and at the sites of endochronal bone formation, undergo a striking change in morphology, taking on the appearance of young fibroblasts.

Leslie Roberts'¹⁷ conclusions on the growth and regeneration of wounds of the skin are:

"The primary closing of the mechanical gap, or dead space, by epithelial extension does not arise from mitotic division of the basal cell nuclei. Healing of the wound depends essentially on the interaction of the various pressure exerted within and upon it. Readjustment is effected by fixation of the cuticle and injured rete cells, followed by desiccation of the fixed tissues and increased pressure over the feeding capillaries, thereby setting up a condition of ischaemia, which is one of the essential factors in growth and regeneration."

^{12.} Mosiman, R. E.: Significance of Subcutaneous Scar Tissue, West. J. Surg. 47: 397-401 (July) 1939.

^{13.} Sieve, B. F.: Clinical Effects of the New B Complex Factor, Para-amino-benzoic Acid, on Pigmentation and Fertility, South. Med. & Surg. 104: 135-139 (March) 1942.

^{14.} Thompson, W. D., Ravdin, I. S., Rhoads, J. E., and Frank, I. L.: The Use of Lyophile Plasma in Correction of Hypoproteinemia and Prevention of Wound Disruption, Arch. Surg. 36: 509-518 (March) 1938.

^{15.} Wolbach, S. B.: Vitamin Deficiency Experimentation as Research Method in Biology (De Lamar Lecture), Science 86: 569-576 (December 24) 1937.

^{16.} Wolbach, S. B.: Pathologic Changes Resulting from Vitamin Deficiency, J. A. M. A. 108: 7-13 (January 2) 1937.

^{17.} Roberts, H. L.: Growth of Epithelium in Tegumentary Tissues; Healing of Cutaneous Wounds. Regeneration, Brit. J. Dermat. 53: 333-366 (December) 1941.

These findings of Leslie Roberts have placed special significance to the role which the subject of ischaemia plays with regard to wound healing. The fact that it is one of the essential factors in growth and regeneration is of decided interest since our own findings, which we have reported herein, seem to have operated, also, through the mechanism of vasoconstriction. We have described islets of blanching in the complexions of our patients after they had received our experimental liver fractions. Since vasoconstriction produces at least partial ischaemia, it appears that our own findings have independently supported the statement of Leslie Roberts on this subject.

With the presence of less ischaemia in the diseased skin areas, it seems pertinent that less secondary skin infection is apt to ensue because of the fact that less stasis is present. Venous stasis is one of the predisposing factors which are favorable to the establishment of secondary infection.

Current therapy for the treatment of facial scars is predicated upon the "peeling" technique. Eller and Wolff¹⁸ have reviewed these separate techniques in a recent article. Various pastes, lotions, are described along with special methods, such as cryotherapy (carbon dioxide snow slush), and the scarification technique (incisions and other surgical measures, such as skin peeling and electrodesiccation).

These procedures have not been used in our current researches. As a matter of fact, the subject of scar prevention was of interest to us mainly because of our belief that scars might have been produced, at least in part, by the opening of the acne pustules. Hence, we have continually cautioned our patients to refrain from picking their faces. In addition, we have never opened such lesions at any time during our research period. This procedure was based upon the above belief.

However, to our satisfaction, some patients began to show marked improvement in previously scarred areas after they had been under therapy for some months. This improvement was very slow in its action,

and became quite noticeable only after long treatment.

This raises a highly interesting and rather important subject since current concepts on scar formation do not proceed on the assumption that scars may be temporary; rather, the prevalent thought is that they are permanent if they have been present for a year or longer.

Our remarks on this topic are confined to the scars which have been produced on the backs and the faces of individuals who have had acne vulgaris for some time. Although we feel that the continual opening of pustules by either the patient or the physician is contrary to the author's personal belief (I have never followed this procedure at any time on any case), I cannot say definitely that such a procedure produces actual scar formation.

The main point, which I wish to discuss at this time, is founded on repeated clinical observations of our patients over a long period of time. Many of these individuals have been scarred by the disease of acne vulgaris. We have observed and have been able to record, by the aid of kodachrome slides, the apparent diminution of scarred areas in certain patients of our experimental group after they were subjected to weekly injections of our experimental material for some months. Peculiarly enough, the jagged, deep borders of these scars became smoother, and noticeable improvement was observed by both the patient and the physician. Numerous patients in the Dermatology Clinic at Northwestern, and also those who underwent the same type of therapy at the Appleton Clinic (Appleton, Wisconsin), showed similar improvement in the partial obliteration of previously scarred areas.

These repeated observations in numerous patients made this topic of decided interest because heretofore we did not know that a pharmacologic substance existed which could produce such a physiologic effect on the skin.

From our results to date it appears that the process of scar formation may not be irreversible as has been thought previously. The current concept of scars is that of permanency. However, in the light of our findings, apparently some absorption of scar tissue has taken place in the cases which we

^{18.} Eller, J. J., and Wolff, S.: Skin Peeling and Scarification in Treatment of Pitted Scars, Pigmentations and Certain Facial Blemishes, J. A. M. A. 116: 934-938 (March 8) 1941; correction 116: 2208 (May 10) 1941.

used in our studies. The exact nature of this process is not known at this time, and we have no idea as to what beneficial effects, if any, our experimental material may have on other scar formations, such as keloids and those produced by the exanthemata.

This apparent ability of our material, which seems to lessen and, at least partially, eradicate scarring in our acne patients, might operate in the power of this material to vasoconstrict these scarred areas. The intrinsic tissue fluids in the scars might be pressed out, and a partial collapse of the fibrous tissue may ensue. Thus, apparent improvement in these scarred areas may be produced, at least in part, through the control over the tissue fluids and their blood supply by the pharmacologic and by the vasoconstricting action of our experimental preparations. The liberation of autolytic enzymes might play some role in the absorption of this scar tissue.

Since the spreading action of this vaso-constrictor effect of our material would be observed rather easily by placing the patient under ultraviolet light, we attempted to obtain serial photographs of this procedure with black and white films. However, this procedure did not record satisfactory results. We resorted to kodachrome studies of this phenomenon, and our results were satisfactory. The spreading action could be readily noted in our patients, particularly if their complexions showed areas of stasis in the form of hyperemic patches of induration with papules and pustules.

We have been able to record our findings further with the aid of colored motion pic-

tures, which show a graphic progress of the process of the vasoconstriction which we have been studying.

It has been observed many times that minute arms of vasoconstriction seem to invade the indurated areas of skin in a process similar to the pincers action of a modern mobile army. These arms surround isolated areas of stasis, noted by the redness, and, with the aid of a magnifying glass, one can observe the pinching-off action of the vasoconstrictor material in our preparation. More formerly stased areas are engulfed until the complexion becomes much lighter in appearance.

The same phenomenon was observed in some cases of acne rosacea who were given the same therapy.

POSSIBLE PHYSIOLOGIC ACTION OF THIS MATERIAL IN CASES OF ACNE VULGARIS

Since areas of skin induration, evident by the chronic state of hyperemia, serve as suitable media for bacterial growth, it has been suggested that, at least, the partial elimination of this difficulty will render the skin a less favorable medium for bacterial propagation. This may explain why these patients improve who are treated with these experimental fractions of liver extract.

ACTION ON ABSCESSES

It occurred to the author to make further tests on the vasopressor effects of the experimental liver extract fraction. It was thought advisable to obtain several patients with abscesses, for such a clinical entity exhibited hyperemic areas which surround the abscessed areas.

TABLE 4
ACTION OF LIVER EXTRACT FRACTION ON ABSCESSES

Pt.	Sex	Age	Size and Location of Abscesses	Length of Treament	t- Results After Therapy
J. G.	M.	30	Two separate abscesses on dorsum right forearm and about three centimeters in diameter. Has had previous attacks. Had them lanced each time.	3 weeks	Complete healing without scar formation.
M. S.	M.	29	Pointing abscess on right buttock. Area involved is 4 cm. in diameter.	2 weeks	Complete healing without scar formation. Absorption method—pus disappeared completely in this time.
R. T.	F.	19	Deep abscess on left cheek. Involved area measures about 2 cm. in diameter.	3½ weeks	Abscess "pointed" after each treatment. Lesion "absorbed" leaving only enlarged pore at site of former abscess.

The dictum, first advanced by Ambrose Pare', 6 that all abscesses should be opened, was contested in the limited observations set forth in Table 4, for these abscesses were not drained but were lightly bandaged to avoid further irritation (rubbing by clothes, etc.) and each patient received an injection of the experimental fraction of liver extract twice a week. The dosage was one cubic centimeter which was administered subcutaneously.

These three patients commented on the fact that the sites of their abscesses became less painful after each treatment. All patients were observed for at least a half hour following each injection. The reddened borders of each abscess showed the typical response to the medication which had been noted in the case of the areas involved in our series of acne cases. The hyperemic areas of the abscesses showed the pinching off action of the injected drug. The tiny, reddened skin borders became isolated and blanched as time went on. The area, which contained pus, seemed to point in that the pus appeared to be forced to the surface of the abscess.

jaws

Perhaps the relief of pain which these patients mentioned was due, at least in part, to the vasoconstrictor action of the material. It appeared similar to the action which other patients experience when they apply ice packs to hyperemic areas. Vasoconstriction, in such a type of therapy, may, perhaps, bring relief from pain.

None of the cases with abscesses used any other medication or therapeutic adjuncts. The areas of pus formation seemed to have been absorbed slowly. No abscess was undermined or treated by any other surgical procedure, which is advocated at the present time, nor did any abscessed area rupture spontaneously and, thereby, drain its contents.

The very fact that no scar formation occurred was of particular interest. This is a limited series of cases, and, consequently, no definite conclusions can be drawn from these observations. However, this study deserves further consideration and more work of this nature will be followed in the future.

It is generally conceded that a hyperemic skin area loses its power to overcome secondary infection from the invasion of omni-

TABLE 5
THERAPEUTIC EFFECT ON SCARS WITH EXPERIMENTAL LIVER FRACTIONS

Pt. Age	Years Scars Present L	ocation T	Other reatment	Period of Injections	Num- ber per Week	Results
R. S. 18	About 3 yrs.	Face	None	7 mos.	2	Scars not so prominent. Stains persist, but skin of face softer.
G. D. B.19	About 5 yrs.	Face	X-ray	2 yrs.	1	Skin thinner and scars markedly lessened. Have be- come smoother.
R. V. 19	About 3 yrs.	Nose	Salves	About 1 yr.	1	Keloid on nose has just about disappeared. Skin is softer.
R. B. 19	About 6 yrs.	Face & Back	X-ray, Salves, Lotions	About 1 yr.	1	Scars markedly improved. Skin softer.
F. N . 26	About 8 yrs.	Face	Salves, Lotions	1 yr.	1	Scars less notice- able and skin of face softer.
E. D. 16	About 4 yrs.	Nose	Salves, Lotions	1½ yrs.	1	Keloid of nose has disappeared. Facial skin is thin- ner and softer.
P. S. 17	About 3 yrs.	Face, marked keloid formations around	X-rays, Salves, Lotions, Ultra- violet	2 yrs.	1 to 2	Keloids have just about disappeared, and remaining scars are soft and plastic.

present bacteria which are found in the skin ducts and glands.

If the skin circulation is improved with the reduction of these stased areas, then fewer eruptions of the skin are likely to occur in such places.

THERAPEUTIC EFFECT ON MENSTRUAL PERIODS

A history of dysmenorrhea seems to be associated with our series of acne cases in females. Many times these patients have stated that they have experienced painful menstrual periods which seem to be connected with an outcropping of pustules.

Under the above-described therapy, many of these patients have stated that their menstrual periods become less painful, and that the menstrual flow is more abundant and the periods are prolonged a day or two. Several patients have inquired about the possibility of the medication influencing their periods. We did not solicit comments as to this phase of the subject, but we did make notes of the apparent ability of the injected material which seemed to influence favorably otherwise painful periods of menstruation in these patients.

SUMMARY

Results with an experimental liver extract preparation, AI-3, on twenty-five unselected cases of acne vulgaris produced a moderate or marked improvement in 68% of the cases.

With the use of a further improved medication on 27 unselected cases of acne vulgaris 89% showed a moderate or marked improvement. The material was LYO-6.

This high incidence of improvement was further checked independently by two well qualified dermatologists who used the LYO-6 material on twenty-three cases of acne vulgaris in their private offices. Eighty-three (83) % of these cases were "cured" or moderately improved. Seventeen (17) % show slight improvement, and there were no failures.

A drop of three-tenths of a degree in the facial skin temperature was recorded in a normal subject after an administration of one cubic centimeter of the experimental material had been given. This took place within a time limit of fifteen minutes. The temperatures were recorded with a thermocouple. This suggested that a vasoconstriction of the skin vessels was taking place, for the complexion of the subject had

blanched. The blanched appearance persisted over twenty-four hours.

The above phenomenon was found to take place in the acne patients who were under treatment with the experimental material.

Current concepts of scar tissue pathology have been discussed with the hope of obtaining knowledge as to how these experimental liver extracts might influence scar formation, for it had been observed that these materials apparently played an important role in the partial scar absorption and improvement which was noted clinically in seven patients who had been under constant therapy for seven months to two years with our experimental materials. Their action in three cases with abscess formation is discussed.

The beneficial effect of these materials on the menstrual cycles in some of our cases has been mentioned.

Since the production of our experimental material is necessarily limited to further research at this time, it is impossible to supply other interested workers with our preparation. However, we shall be happy to grant requests for this material at a later date, when routine requirements are met satisfactorily.

416 Van Antwerp Building.

The Future of American Medicine-A safe and sane type of medical practice is an essential foundation upon which future developments should be based. The present method of medical practice has developed through these years by the method of trial and error. There are improvements which can be made in the administration and the distribution of medical care by developing new technics or the betterment of present methods. The medical profession realizes that it has by no means reached any self-satisfied type of perfection in solving the problems which confront this country in developing adequate plans of medical service for all of our people. There is not the slightest evidence which can be produced to justify such an assumption nor any evidence that we are not constantly striving to make available a greater quantity and better quality of medical care. There is much evidence which can be presented to show that we, as individuals, as county, as state associations, and as a national organization, are constantly striving through safe and sane methods to remedy many inequalities of medical service.

Fortunately for our people, the profession is composed largely of practitioners who are conservative and who look with suspicion upon all claims for the quick cure or the rapid alleviation of human suffering.—Paullin, South. M. J. Jan. 44.

CHEWING GUM FEVER

HARVEY B. SEARCY, M. D.

Tuscaloosa, Alabama

I had forgotten the physiologic entity that muscular effort produced a local rise in temperature until last summer when, after tests for undulant fever, typhoid, malaria, etc. on a child, I discovered that on discontinuing the use of chewing gum the temperature became normal. A whole family troubled with fever became normal when the chewing gum habit was discontinued. This prompted me to contact a chewing gum manufacturing company to whom, in requesting a supply of chewing gum, I outlined a set of experiments I desired to perform. I received the gum and the following letter: *

We have heard that there is a question in your mind about the effect of chewing gum on body temperature. Naturally, we, as manufacturers of chewing gum, are very much interested in knowing more about this and whether there is an effect which we have not considered.

We have tried some preliminary tests in our company first aid room to determine the effect of chewing gum on oral temperature. Twenty subjects were taken as they came to the first aid room for various causes. None were really sick or accident cases. Their temperatures were taken by a registered nurse; then they chewed gum steadily for five minutes and their temperatures were taken immediately. They discontinued chewing the gum and after ten minutes their temperatures were taken again. They did not smoke or drink water in the meantime.

We found that there was an average rise in oral temperature of 0.4° F., after five minutes' chewing. The range of temperature change was from 0.4° F. to 1.2° F. There did not appear to be any correlation among the temperature changes in regard to age, general condition, or condition of the teeth. In all cases, the temperature after ten minutes' rest had returned to the temperature recorded before chewing the gum or to a slightly lower temperature.

In order to find whether there is something in gum which causes a rise in temperature, we repeated the test using paraffin in place of gum. We found a slightly greater, but not significant, rise in oral temperature after five minutes of chewing paraffin. Ten minutes after chewing was discontinued the temperature had returned to that at the beginning of the test.

In order to find whether there is any change in oral temperature after chewing ordinary food, we tried one subject on soda crackers. The temperature was taken and this girl was given soda crackers to chew. She was told to chew one cracker at a time only until it became soft. This was discarded and a fresh cracker was used. This

*The name of the manufacturer may be had on request.

was continued for five minutes. At the end of this time, the oral temperature had risen 1.° F. In ten minutes the temperature had returned to that at the beginning of the test.

From these tests we have concluded that there is nothing inherent in chewing gum which causes a rise in oral temperature.

The following editorial appeared in the September 11, 1943 Journal of the American Medical Association.

ORAL AND RECTAL TEMPERATURES AFTER EXERCISE²

Temperatures taken by rectum are about 1 degree F. higher than those taken by mouth. The body temperature rises several degrees as a result of exercise, the extent of rise being dependent on the amount, intensity and nature of the exertion. Recently Brennemann reported the recording of the rectal and oral temperatures just before and just after various degrees of exercise in 10 children and 3 adults, all apparently in sound health. The rectal temperatures rose from 1 to 4 degrees F. higher after exercise while oral temperatures remained relatively unchanged, rose only slightly or even dropped. The increase in rectal temperatures and hence the variation from the oral was directly proportional to the intensity of the exercise. Normal temperatures both by rectum and by mouth were resumed in from thirty to sixty minutes. The clinical implications are obvious: a high afternoon or postexercise rectal temperature in a child cannot be presumed to reflect a disease process and conversely the danger of such a high temperature masking a disease process should not be overlooked.

On September 20, 1943 I asked the supervisor of nurses at a local hospital to make the following experiment: A class of ten nurses was taken and each nurse was given a piece of chewing gum and requested to record her own temperature at the beginning of the hour and for every five minutes thereafter. For thirty minutes she was to chew the gum, then to discard the gum but continue the record. The thermometer interfered with the chewing of the gum one minute out of every five. The accompanying chart shows the temperature of each nurse at the beginning of the hour and the amount of change for every five minutes of the hour. She was chewing gum the first thirty minutes. There was no change in the rectal temperature from chewing gum, taken about thirty minutes before coming to class and afterwards.

2. J. A. M. A. 123: 96 (September 11) '43.

TEMPERATURE CHANGES IN GUM CHEWING

Minutes

Nurse	0	5	10	15	20	25	30	5	10	15	20	25	30
No. 1	98.0	0.6	0.8	0.8	1.0	1.2	1.0	0.8	0.6	0.4	0.6	0.4	0.2
No. 2	98.2	0.4	0.6	0.8	0.8	1.0	1.2	0.8	0.6	0.6	0.6	0.4	0.2
No. 3	98.0	0.6	0.8	0.8	1.2	1.2	1.4	0.8	0.6	0.4	0.4	0.4	0.2
No. 4	98.2	0.4	0.8	0.6	0.6	0.6	0.6	0.4	0.4	0.2	0.0	0.0	0.0
No. 5	99.0	0.4	0.6	0.8	0.6	0.8	0.8	0.4	0.4	0.4	0.2	0.2	0.0
No. 6	98.0	0.2	0.8	1.2	1.2	1.2	1.2	0.8	0.4	0.4	0.4	0.2	0.2
No. 7	98.0	0.2	0.2	0.6	0.6	0.8	0.6	0.2	0.4	0.2	0.0	0.0	0.0
No. 8	98.2	0.4	0.6	0.4	0.8	0.6	0.6	0.6	0.4	0.2	0.0	0.0	0.0
No. 9	97.8	0.8	0.8	0.8	1.0	1.0	1.0	0.8	0.6	0.6	0.4	0.4	0.2
No. 10	97.4	0.8	0.8	0.8	1.0	1.0	1.0	0.8	0.6	0.6	0.4	0.4	0.2
Average		0.48	0.68	0.76	0.88	0.94	0.94	0.64	0.50	0.40	0.30	0.24	0.12

CONCLUSIONS

- 1. Chewing produces a physiologic elevation of oral temperature.
- 2. The amount of elevation of the oral temperature from chewing depends upon the amount of muscular effort used in the chewing.
- 3. Chewing gum can produce a false fever that may confuse a diagnosis.

Diverticulitis of the Colon-The classic syndrome of diverticulitis consists of pain in the left lower quadrant of the abdomen, low-grade fever, slight leukocytosis, flatulence and slight nausea, but this textbook picture is all too un-The patients with mild, so-called "chronic nonperforating" cases may have no more than recurrent attacks of mild abdominal soreness or cramps, especially below the umbilicus, flatulence and irregular bowel habits, with ciarrhea and constipation and, occasionally, bleeding from the rectum. Now and then there is only diarrhea, increasing constipation or rectal bleeding. Physical examination is, for the most part, negative; the temperature and white-cell count are usually normal but occasionally slightly elevated. As the disease progresses the symptomatology becomes more marked. There is distinct abdominal pain, usually in the lower half of the abdomen, being not infrequently localized in the left lower quadrant and sometimes in the right lower quadrant or left side. There is a history of irregular bowel habits-constipation and diarrhea, occasionally bleeding and rarely small stools. There may be a feeling of incomplete or unsatisfactory bowel movements on the one hand or relief of symptoms following defecation on the other. Nausea and vomiting are not infrequent. Some patients have frequency, nocturia or burning, giving rise to a suspicion of disease of the urinary tract. There is frequently tenderness on palpation, usually in the lower abdomen. Fever and leukocytosis are more frequent in the severe cases than in the mild ones.-Young and Young, New England J. Med. Jan. 13, '44.

The Transplantation of Skin-Throughout the ages the healing of a skin defect of any size has always been a slow, painful, and disabling process, and we may assume that the best surgical minds must have given much time and thought to the search for less prolonged and painful methods of treatment of such lesions. We are not surprised to find evidence that pedunculated flaps of skin were used with some success as early as 700 B. C. An accurate description of such methods appears in a book on "Plastic Surgery" by one Gaspar Tagliacozzi in 1597. The free transplantation of skin, however, is a development of the latter part of the nineteenth century. J. L. Reverdin in 1869 first showed that small bits of epidermis could be transplanted from one part of the body to another and made to survive in their new surroundings. Lawson, Ollier, Thiersch, Wolfe, and Krause followed in short order with notable contributions to the science of skin grafting. Their work has been developed and perfected in recent years by Blair, Staige Davis, and others.

For practical purposes we may classify skin grafts into (1) small deep or "pinch" grafts, (2) grafts of intermediate thickness or split grafts, (3) full thickness grafts, and (4) pedicle grafts. Indications for the use of these vary according to the site, size, and character of the area to be covered. The split graft has by far the wider range of usefulness and is applicable to most situations requiring a skin transplant.

Bits of skin transplanted from one part of the body to another are known as autografts as distinguished from isografts which are taken from the body of one individual and transplanted on the raw surface with which another individual is afflicted. There has been a firm belief among the laity and also among doctors that such heterotransplants could be made to take hold and thrive like autografts. This idea is quite correctly based on the fact that such borrowed grafts do "take" for a short while, but Holman, Padgett, Blair and others have proved conclusively that after a brief period, which varies according to the comparative blood groupings of donor and recipient, they are attacked by their new host in an anaphylactic sort of way and are completely annihilated.—Thomaston, Texas State J. Med., January 1944.

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February 1944

A MESSAGE TO THE MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

Reprinted from the January 29, 1944 Journal of the American Medical Association.

For some ten years the physicians of the United States have been subjected to a series of stresses such as have disturbed the orderly progress of medical science in no previous period of similar length. In 1860 Oliver Wendell Holmes wrote:

"The truth is that medicine, professedly founded on observation, is as sensitive to outside influences, political, religious, philosophical, imaginative, as is the barometer to the changes of atmospheric density."

The depression of 1929, the evolution of the Social Security Act, the first Wagner bill, the development of hospitalization and medical care insurance, the enrolment of a third of the active medical profession in the armed forces, and now the Wagner-Murray-Dingell bill represent a series of provocative crises. Each of these challenges was met by the House of Delegates, the Trustees and the officers of the Association with clearly defined statements of policy which the Association has disseminated widely. Under these policies the extension of medical service has proceeded steadily and everything possible has been done to maintain the quality of medical education and medical service at the high standard that has been our ideal. The continued pressure of the years has been climaxed by the Beveridge report, the report of the National Resources Planning Board and the introduction of the Wagner-Murray-Dingell bill. This comes when every physician not in the armed forces is giving of himself unstintedly without thought of time or physical capacity.

Today strange social philosophies pervade the radio, the press and the periodicals. Panaceas for medical problems are proffered by innumerable prescribers. Some preach distrust of medical organization, cast doubt on the loyalty of our leaders, sow dissension in our membership! These activities are no doubt a reflection of anxieties and years. And they appear at a time when a united, loyal, solidly organized medical profession is more needed than at any previous time in our history! When our representatives appear before legislative hearings they are entitled to the loyal, enthusiastic, unified support of the constituent and component societies of the American Medical Association.

In some areas there are attempts at reorganization of the county medical society on a strictly business basis; attempts are being made to organize small groups of the states into sectional cliques; before the House of Delegates of one state a delegate actually urged a united opposition to the Southern states; here and there physicians, apparently inspired by lay employees or by the urging of outside agencies, would pour the funds of county and state medical societies, swollen by special assessments, into "public relations," as if this were some new and potent magic; there are occasional demands that the medical profession "unionize" and affiliate with one or the other of the major labor organizations. The far-seeing Oliver Wendell Holmes was right: physicians are "sensitive to outside influences, political, religious, philosophical, imaginative."

Now what are the facts? The trend of public thought is quite definitely against any such expansion of the Social Security Act as the Wagner-Murray-Dingell bill contemplates. The Council on Medical Service and Public Relations has been organized, has developed a program, has stated its policies, has secured a full time secretary, has expanded sources of information on legisla-

tive activities, is participating in public relations for the Association. The Board of Trustees has organized for suitable representation at any hearings that may be called on legislation affecting the medical profession. The publications of the Association have reached the highest peak in their history in circulation and effectiveness. A poll proves that a majority of Americans interviewed consider the American Medical Association an organization interested in the advancement of medical science, an organization devoted to the approval of that in medicine which is sound and exposing that which is fraudulent—what the experts call a "favorable symbol." And all this accomplished at a time when the employees of the Association have been reduced by onefourth by war activities or call to the armed forces, and when many others are likewise giving largely of their time to war activities.

The Board of Trustees pledges itself anew, as do the officers and employees of the Association, to do their utmost to carry out and to implement the principles, the policies and the mandates of the House of Delegates. To some 55,000 physicians who are in the armed forces the Board pledges all that the Association can do to maintain for them a medical profession free from the interference of political control. The Board is convinced that the House of Delegates will also do its utmost to hold the traditions of Americanism and American medicine inviolate until the physicians who are now with the armed forces return and themselves participate in determining the future of American medicine.

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PENICILLIN

"Our purpose in this report is to acquaint the medical profession with the results that have been obtained in the treatment of 500 cases of various infections with penicillin. All these cases have been treated by twentytwo groups of investigators accredited to the Conference on Chemotherapeutic and Other Agents of the National Research Council, and the results of the treatment have been collected and summarized by the chairman of the committee who acted for it and for the Committee on Medical Research."

Thus does the above-mentioned committee¹ open its report on the newest of the "magic" drugs, penicillin. The committee further says that "it was necessary to limit both the number of patients treated and the types of infection to be studied, since only small amounts of penicillin were available for clinical investigation. It was the responsibility of the committee to direct the study toward those infections that are most likely to occur in our armed forces and to those that are resistant to the sulfonamides. The infections selected were:

- 1. Staphylococcus aureus bacteriemia.
- 2. Local Staphylococcus aureus infections failing to respond to the sulfonamides.
- 3. Streptococcic infections failing to respond to the sulfonamides.
- 4. Pneumococcic, streptococcic and staphylococcic meningitis or empyema.
- 5. Pneumococcic pneumonia failing to respond to the sulfonamides.
 - 6. Sulfonamide-resistant gonococcic infections.
 - 7. Subacute bacterial endocarditis."

The conclusions of the committee are in part as follows:

"From a study of 500 cases of infection treated with penicillin the following conclusions are justified:

"Penicillin is a remarkably potent antibacterial agent which can be given intravenously, intramuscularly or topically. It is ineffective when given by mouth."

"Following intravenous or intramuscular injection it is excreted rapidly in the urine, so that in order to obtain an adequate amount of potent material in the circulating blood and tissues it is necessary to inject penicillin continuously or at frequent intervals; that is, every three or four hours."

"Penicillin has been found to be most effective in the treatment of staphylococcic,

^{1.} Statement of the Committee on Chemotherapeutic and Other Agents, Division of Medical Sciences, National Research Council: Chester S. Keefer, M. D., Boston, Chairman; Francis G. Blake, M. D., New Haven, Conn.; E. Kennerly Marshall, Jr., M. D., Baltimore; John S. Lockwood, M. D., Philadelphia, and W. Barry Wood, Jr., M. D., St. Louis: Penicillin in the Treatment of Infections. A Report of 500 Cases, J. A. M. A. 122: 1217 (Aug. 28) 1943.

gonococcic, pneumonococcic and hemolytic streptococcus infections. It has been disappointing in the treatment of bacterial endocarditis. Its effect is particularly striking in sulfonamide-resistant gonococcic infections.

"In the treatment of empyema or meningitis it is advisable to use penicillin topically by injecting it directly into the pleural cavity or the subarachnoid space.

"Toxic effects are extremely rare. Occasional chills with fever; or headache and flushing of the face have been noted. Urticaria has been reported and thrombophlebitis at the site of injection has been described."

Penicillin is so new and, for most of us, so unobtainable that our knowledge of it is limited to what we read concerning it. It has, perhaps unfortunately, been extensively and dramatically written up by the lay press and from the first it has borne the unfortunate title of "miracle drug."

But, let us remember, so were the sulfonamides and these have certainly proved themselves to be most valuable additions to our therapeutic armamentarium, even though they naturally have not been able to live up to the more fantastic claims that at first were made for their effectiveness.

It is fitting that at present all of our very limited supply of penicillin is being given to the great medical centers for study and experimentation and to our armed forces. Everyone wants the men in uniform to be cared for first. But also we can hope that ways and means will be found to speed up the growth of the mould from which penicillin is obtained. Or, better still, that in time we may be able to make synthetic penicillin. It is of course too early for predictions, but it certainly appears that the day of a new and wonderful therapeutic agent is dawning.

RELOCATION OF PHYSICIANS

In the matter of the relocation of practicing physicians, the State Health Officer has received the following communication from the Surgeon General of the United States Public Health Service:

FEDERAL SECURITY AGENCY UNITED STATES PUBLIC HEALTH SERVICE WASHINGTON

December 31, 1943.

Dr. B. F. Austin State Health Officer Montgomery, Alabama Dear Doctor Austin:

Public Law No. 216, 78th Congress, approved by the President on December 23, 1943, appropriates to the United States Public Health Service the sum of two hundred thousand dollars (\$200,-000.00) during the fiscal year ending June 30, 1944, for the relocation of private practicing physicians and dentists. The Act provides:

1. That a municipality, county, or other local subdivision of government may submit an application to the Surgeon General for the relocation of a private practicing physician or dentist in the applicant subdivision.

2. That such application must be duly approved by the State Health Department having jurisdiction over said municipality, county, or other local subdivision of government.

3. That the Surgeon General on receiving such application is authorized to enter into an agreement with a private practicing physician or dentist under which, in consideration of a relocation allowance of not to exceed \$250.00 per month for three months and the actual cost of travel and transportation of the physician or dentist and his family and household effects to the new location, such physician or dentist agrees to move to and engage in the practice of his profession in the applicant subdivision for a period of not less than one year.

4. That no such contract shall be made with any physician or dentist unless such physician or dentist shall be admitted to practice by the State authority having jurisdiction of such new location.

5. That each such applicant subdivision shall contribute 25 per centum to the total cost of such relocation allowance, travel, and transportation costs of each such physician or dentist and his family obtained by such applicant.

Sincerely yours, Thomas Parran Surgeon General

Application forms are available through the office of the State Health Officer to communities interested in attempting to find a physician.

ANNUAL MEETING
WHITLEY HOTEL
MONTGOMERY
APRIL 18, 19, 20

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

REPORT OF THE RABIES INSPECTOR, MONT-GOMERY COUNTY, FOR THE YEAR 1943

The 1943 report of the Rabies Inspector of Montgomery County as rendered to the County Board of Health reflects so admirably the worth-while application of Alabama's Dog Control Act that it merits reproduction in the columns of the Journal. and the Editor is pleased to have the opportunity of doing so.

Clinics held in the city of		
Montgomery	22	
Clinics held in the county	71	93
Dogs inoculated in the city	2,825	
Dogs inoculated in the county	3,055	5,880
Number of fees collected	4.980	
Number of penalties	900	5,880
Uninoculated dogs picked up		852
Dogs redeemed from pound	345	002
Stray dogs humanely dispatched	507	852
Assistants employed	7	
Dogcatchers employed		
Miles traveled		
Arrests and convictions		
Investigations made	36	

Respectfully submitted, G. J. Phelps, D. V. M. Rabies Inspector

January 1, 1944

Florida)

BUREAU OF PREVENTABLE DISEASES D. G. Gill, M. D., Director PROGRESS OF CANCER CONTROL **PROGRAM**

Cases of animal rabies (A cat from

The cancer control program of the state is progressing satisfactorily and indications are that the procedures set up to put the program into effect are workable. The number of cases brought to the various clinics has not been large but there has been a steady demand for services.

As the medical profession and the public become better acquainted with the program there will undoubtedly be an increasing demand. Assistance in diagnosis and treatment is reserved for those who are unable

to pay, and in these lush times the people qualified for admission to free clinics is very materially less than in more stringent times.

Clinics are needed in other portions of the state and sufficient interest has been expressed by medical groups to insure the establishment of additional clinics, properly equipped, at other medical centers. As of January 15, 1944 there were four cancer clinics in operation. The location and time of meeting of these are:

Hillman Tumor Clinic, Hillman Hospital, Birmingham, Thursday, 12 Noon.

Norwood Tumor Clinic, Norwood Hospital, Bir-

mingham, Friday, 12 Noon. Oak Park Tumor Clinic, Hubbard's Hospital, Montgomery, 2nd and 4th Wednesday, 3:30 P. M. St. Margaret's Tumor Clinic, St. Margaret's Hospital, Montgomery, 2nd and 4 Friday, 3:30 P. M.

To gain admission for a patient, fill out an application blank (County Health Departments have them), have it approved by the County Welfare Department and mail to the Cancer Division of the State Health Department. If the patient is suitable an appointment will be made and all concerned notified.

PREVALENCE OF COMMUNICABLE DIS-EASES IN ALABAMA

1943

			E. E.*
	Nov.	Dec.	Dec.
Typhoid	3	4	12
Typhus .	101	71	34
Malaria	192	94	167
Smallpox	. 102	2	101
Measles	177	478	66
Scarlet fever	84	61	109
Whooping cough		39	107
Diphtheria		47	108
	215	3035	532
Mumps		64	49
Poliomyelitis		î	4
Encephalitis	0	ô	î
Chickenpox	65	169	143
Tetanus		4	3
Tuberculosis		2 12	218
Pellagra	6	7	12
Meningitis	8	15	6
Pneumonia	268	437	398
Trachoma	. 0	0	0
Tularemia	. 0	3	Ö
Undulant fever	4	7	3
Dengue	0	Ò	Ö
Amebic dysentery	1	Ö	ő
Cancer	149	156	Ö
Rabies—Human cases	0	0	0
Positive animal heads	. 9	9	

As reported by physicians and including deaths not reported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

BUREAU OF VITAL STATISTICS

Ethel Hawley, Acting Director

PROVISIONAL MORTALITY STATISTICS— NOVEMBER 1941, 1942, 1943

	NUMBER OF DEATHS REGISTERED NOV. 1943		ANNUAL RATE PER 100,000 POPULATION			
	White	Colored	Total	Novem- ber 1943	Novem- ber 1942	Novem- ber 1941
Births (exclusive of stillbirths)	***	***	*6206	25.6	26.8	21.4
Stillbirths	78	991	‡177	27.7	27.4	38.1
stillbirths)	1163	999	*2162	8.9	8.5	10.2
Infant Deaths: Under one year Under one month	132 91	126 65	**258 **156	41.6 25.1	42.3 26.8	64.4 39.0
Typhoid and paratyphoid fever 1, 2 Epidemic cerebro-	0	1	1	0.4	0	1.3
spinal meningi- tis 6	0	4	4	1.6	1.3	0
Scarlet fever 8 Whooping cough 9 Diphtheria 10	0 1 6	0 7 0	0 8 6	3.3 2.5	3.4 4.2	0 3.4 6.8
Tuberculosis, all forms 13-22	41	73	114	47.1	36.1	55.8
Malaria 28 Syphilis 30	0 5	31	36	0.8	2.9' 11.8	7.2 17.4
Influenza 33 Measles 35	20	15	35 0	14.4	11.8	11.5 1.3
Poliom velifis 36	0	0	0	0.4	0.4	3.0
Encephalitis 37 Typhus fever 39	2	1	3	1.2	0.4	1.3
Cancer, all forms	103	49	152	62.8	74.8	75.4 15.3
Diabetes mellitus 61 Pellagra 69 Alcoholism 77	17 6 1	12 13 0	29 19 1	12.0 7.8 0.4	11.3 5.0 0.8	8.5 2.1
Intracranial lesions 83	99	74	173	71.4	72.3	93.7
Diseases of the heart 90-95	274	187	461	190.3	161.3	172.0
Diseases of the arteries 96-99	25	8	33	13.6	10.9	12.8
Bronchitis 106 Pneumonia, all	3	2	5	2.1	1.7	1.3
forms 107-109 Diarrhea and en- teritis (under 2	51	57	108	44.6	38.2	44.7
years) 119 Diarrhea and en-	16	5	21	8.7	6.3	11.9
teritis (2 years and over) 120 Appendicitis 121	0	2	2 13	0.8 5.4	4.2 3.4	3.4 7.2
Hernia, intestinal obstruction 122	10	8	18	7.4	6.7	7.2
Cirrhosis of the liver 124	6	1	7	2.9	4.2	6.4
Nephritis, all forms	98	98	1961	80.9	70.2	91.1
Diseases of the puer- peral state 140-150	9	18	†27	42.3	28.9	40.2
Puerperal septicemia	5	5	÷10	15.7	3.0	17.2
Suicide 163-164 Homicide 165-168 Accidental deaths	12	20	14 27	5.8 11.1	6.7 9.2	4.2 17.4
(exc. motor vehi- cle) 169, 171-195 Motor vehicle 170	60	49	109 46	45.0 19.0	47.5 24.4	41.3 37.0
All other known causes Ill-defined and un-	212	115	327	135.0	140.3	154.1
known causes 199- 200	35	129	164	67.7	70.6	96.2

^{*}Rate per 1,000 population

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

EMIC

A SERVICE FOR SERVICE MEN'S DEPENDENTS

These letters, the abbreviation for Emergency Maternity and Infant Care, represent a wartime measure. The plan developed rapidly and undoubtedly has many defects which, it is hoped, will be ironed out. Because it affects the service man's peace of mind and relieves his anxiety for maternity care for his wife, the program must be considered a part of our fighting strategy.

All families of enlisted men of the 4th, 5th, 6th, and 7th pay grades in the Army, Navy, Marine Corps, and Coast Guard who receive January family allowance checks will also receive a leaflet from the U. S. Children's Bureau. For their information this leaflet will give them these ten facts:

1. Under this program wives of these enlisted men are entitled to medical, nursing, and hospital care, as needed and *Available*, throughout pregnancy, at childbirth, and for six weeks thereafter.

2. Infants of these enlisted men are also entitled to medical, nursing, and hospital care, as needed and *Available*, until they are one year old.

3. The care, when Available, involves no expense for the enlisted man or his wife. Payment for services is made by the State Department of Health directly to doctors and hospitals. Payments to the doctor or hospital, in addition to those made by the State Department of Health, may not be made by or on behalf of the wife. Hospitals are paid on the basis of the Cost of Ward Care, whether the wife or baby is cared for in a ward or in other accommodations.

4. No period of residence in a state is required. Race and color do not matter.

5. The wife may apply for maternity care as soon as she knows she is pregnant, and for care for her sick baby at any time.

6. The wife fills out an application form which she gets from her doctor, a hospital, a clinic, the local health department, a Red Cross chapter, or the State Department of Health. Separate forms must be filled out for maternity care and for infant care.

7. The doctor who is to give care signs the application. It must be forwarded by the wife or doctor to the State Department of

^{**}Rate per 1,000 live births

[†]Rate per 10,000 total births

[‡]Rate per 1,000 total births

^{***}Not available

Health, *Immediately*, since payment for care can be considered by the State Department of Health *Only After the Application Has Been Received*. The wife and her doctor will be notified when the application is approved.

8. Payment cannot be expected for medical or hospital service which the wife or infant has had *Before Application Is Made*.

9. Services of a consulting physician, as *Needed and Available*, may be provided under the program.

10. For the protection of mothers and babies, each State Department of Health has certain standards which doctors and hospitals providing care must meet.

Notice the use of the word "available." This means that where there are no participating hospitals, no hospital deliveries can be authorized and paid for, and where there are no participating physicians, no care is available under this plan.

As recently as December 29, 1943, the Children's Bureau stated: "If a physician were to request authorization for hospital care under the program and arrange with the patient to pay him for her medical care, or if he were to charge the patient an amount in addition to that paid by the State agency, it would nullify the Congressional objective of providing care without cost to the enlisted man or his family."

This is the cause of what is probably the most disliked and unsatisfactory provision in the program and is thus stated:

"Physician's services will not be authorized if the patient or someone in behalf of the patient is to pay for hospital care; and hospital care will not be authorized if the patient or someone in behalf of the patient is to pay the physician for medical care." Payment in either case may be considered improper by Federal Auditors.

It is requested that the records, used as the basis of payments of physicians' fees and hospital care, be accurately kept and agree with the birth certificate which is the legal document. The State Department of Health must render to Washington a quarterly report summarizing all essential data.

As stated, the plan has defects and irkscme restrictions, but while the patient is allowed the right to choose her own physician, he has the right to accept or reject the patient and the terms of the plan. These principles of medical practice are preserved. As physicians find it increasingly difficult to attend confinements at home, the plea for more hospital participation is repeated. There are thirty participating hospitals, and it is hoped that others will find a few beds to accommodate the wives of service men.

A PEDIATRICIAN LOOKS AT PUBLIC HEALTH WORK IN ALABAMA

Contributed by
W. D. Lyon, M. D.
Formerly Pediatric Consultant
State Department of Health

After more than thirty years of private practice in pediatrics, it has been my privilege during the past six months to visit sixty-four counties of the state at least once and there to meet all the personnel of the several county health departments. I have had conferences with the health officers and nurses, and observed rather fully all of their activities, both in the home offices and the field work where I have accompanied doctors and nurses. From this observation I have come to realize as never before how the venereal disease, prenatal and maternal clinics all have a basic relationship with pediatrics. As the work in these various fields amplifies and improves, the results are most gratifyingly apparent in the condition of children at birth and later. When I contrast the frequency of venereal injuries present in the infants of the past few years with those of forty years ago, it seems we have indeed come a long way.

In the matter of other preventable diseases, it seems perfectly clear that only through the intensive work performed by the public health service have the large numbers of children protected received this benefit, and from what I have seen the private practitioner could do much more of this work if he so desired. Thousands are reached that he would never in any way be able to see and so be powerless to help. In the course of my travels I have had the great pleasure of meeting more than two hundred private practitioners who have been most kind in granting me interviews, and I have seen seventy infants and children in consultations with them. There are only a few pediatricians in the state, and these are centered in a very few localities, and patients come to them from long distances.

In general, I found the doctors very much interested in children and glad to talk over all sorts of problems concerning them. Many deplored the fact that they were too busy to take the time needed for the careful attention required for the infants and young children, and all seemed glad for any service that can be given to children in their localities.

It has been very interesting to attend many health conferences and well-baby clinics, also some of the great orthopedic clinics where so much wonderful aid is given to our children. Sometimes it seems that only as we see so much misery and disability gathered into a group do we realize how much is needed and how much is being done. The spirit of cooperation is so apparent in all these conferences that I feel sure that more and more will be accomplished toward the perfection of our most precious crop, the children. As between private practitioners and public health workers there should be no friction. All are working toward the same objectives—the prevention, alleviation and cure of disease.

In Alabama the infant welfare, prenatal, maternal and venereal disease clinics all use private practitioners as clinicians, in so far as they are obtainable.

The matter of financial status of those who attend the various clinics is a matter that is not always easily decided, and there certainly are some cases cluttering up our clinics who are well able to pay for any medical service that they need. However, many private practitioners are so busy or preoccupied or indifferent that they cannot be depended upon by their clientele to make sure that immunizations are given when indicated and health checks in infancy and childhood made at the proper periods. If this be true, they should not object to the public health effort to see that these things are done, but, on the other hand, it is quite feasible for the public health workers to determine the ability of people to make payment for service by the private practitioner and to see that he is consulted in every case where this be possible. In the days when the beginning doctor was available for work and training in free clinics for people of limited means, much good often accrued to all concerned and in many communities abuses were rare. But now that the younger men are seldom available and the remaining practitioners often strained almost past endurance by press of work, it is quite understandable that all the effort possible of public health workers may be profitably utilized in every activity that is open to them. Ofttimes they will be able to aid in bringing needed service to the scattered populations of those counties where the number of active doctors is all too small, and by the working out of all possible means of prevention the illness load will be appreciably lessened.

It is far better for an occasional abuse of the free clinic to occur than for even one poor child to be denied the care and protection that may determine the entire course of his life.

BUREAU OF SANITATION

T. H. Milford, M. S. in S. E., Director

RESPONSIBILITY FOR FOOD ESTABLISH-MENT SANITATION

Contributed by L. W. Grogan, Senior Sanitarian

Today more people are eating in restaurants, factory cafeterias, school and other lunchrooms, drug stores, etc., than ever before. The U. S. Public Health Service estimates that 65 million meals a day are served by public food-serving establishments, approximately one-sixth of the total meals consumed in the United States. Shortage of construction and equipment materials, labor, etc., have prevented adequate expansion of existing food establishments and deterred persons from entering the business. As a result, in certain defense areas in Alabama even the load indicated from the figures above is too conservative.

The present state food regulations were adopted in 1937. They have been applied in most of the counties now carrying on food sanitation programs since 1937 or 1938. In most counties, the majority of the food establishments have complied reasonably well with the mandatory items concerning structures and equipment, although in many instances these are now inadequate for the greatly increased load of business. Schools, conferences and meetings have been held for inspectors to insure their being familiar with the requirements and the reasons for them. Inspectors have repeatedly inspected

the food establishments, and have discussed defects in equipment and methods with the operators until all but the newest operators should be familiar with the requirements. Several counties have tried food-handler schools. The attendance at these, especially in defense areas, has been disappointing, although the response of those attending and public reaction have been favorable.

Effective food sanitation depends upon maximum education of food establishment operators and employees, a sustained and conscientious inspection program, cooperation from food establishment operators, and

public support.

As stated previously, most health departments have routinely done inspections of food establishments. However, the conscientiousness with which this has been done varies from county to county. Deficiencies may be traced either to the inspector, health officer or both. In a few instances, the inspectors have merely been going through the motions of inspecting food establishments; not making thorough and impressive inspections, not fully explaining defects and their correction with the operators, and accepting repeated violations without insisting that they be corrected. In most of the counties where inspectors have merely been going through the motions of inspection, the health officer is at least partly responsible. In some, the health officer shows little interest in the inspection program, knows little about what or how much the inspector is doing, or fails to back the inspector when backing is needed. It is difficult for even a conscientious inspector to do effective work under these conditions, and easy for a careless inspector to get by. The health officer and inspector both have a part in inspection programs.

Some inspectors and possibly more health officers apparently think that education of the operators is all that is necessary. If this had been true, the food regulations would have been written as suggestions or guides rather than as regulations. A minority of food establishment operators do only what they are convinced they must do to stay in business. Unless a health officer is prepared and willing to use the authority given him, permit denial, permit suspension or revocation, and court action when necessary, the operators who most need regulating will not make needed improvements in equip-

ment or methods. This has been repeatedly demonstrated. No county has done effective food control without denying food permits to bad places until they were put in satisfactory shape, suspending or revoking permits where needed, and instituting court action where the other two were insufficient. The food regulations place these three responsibilities on the health officer. If he refuses to take such action when it is necessary, or postpones it until his inspector has lost confidence or enthusiasm, the food program will inevitably suffer, and in many cases the inspector will cease to try to enforce the regulations. The health officer can not escape responsibility for the attitude or morale of his inspector, nor for continued operation of entirely unsatisfactory establishments provided his inspector has brought them to his attention. In cases where the inspector has been derelict in bringing these to the attention of the health officer, surveys and visits by the state inspector will bring them out. In fact, that is a major reason for surveys.

The cooperation of operators is also essen-Many operators do cooperate. Some health officers and inspectors have listened to the pleas of some operators that improvements can not be made because help is so scarce or unreliable, materials and equipment cannot be secured, etc., that they too have become convinced. When an operator applies for a permit he agrees to comply with the food regulations. If he is proven to be such a poor manager that he can not get his employees to do their work reasonably well or can not provide satisfactory equipment as it is needed, he should be penalized by cancellation of his permit rather than to expose all of his hundreds and thousands of customers to filth and infection. That equipment and work from employees can be secured is proven when places have been closed. In every instance which can be recalled where an establishment has actually been closed, improvements and cleaning have been done in an amazingly short time,

It is time for health departments to place a fair share of the responsibility for proper operation of food establishments on the operator. The regulations clearly place responsibility for providing a satisfactory building and proper equipment on the oper-

even though it was insisted before closure

that they were impossible.

ator since they state these must be provided before a permit is issued. The regulations do not provide any penalties for employees, but only for the operators. Therefore, employee actions and shortcomings are the operators' responsibility. Their selection, training and supervision are his also. Where operators have been made to realize this, improved conditions have resulted.

Public and official support is also essential. In most counties, the public is demanding effective food control as evidenced by personal reports and complaints regarding poor conditions. Reasonable public support can always be achieved. Informative articles regarding food sanitation and food establishments in local papers, talks before civic and other groups, personal conversations and conferences all can be utilized to good effect. In most counties official support is already present. Some reports have been received from counties expressing fear that official support would not be given when needed. In every such case checked, no contacts had been made with the officials to acquaint them with conditions or needs, nor to solicit their support. In every instance that comes to mind where local officials have been reasonably well informed, their support has been secured. Two reports have been received to the effect that local enforcement officials have refused to institute or try court cases. In one, political friendship of the county judge and defendant, together with dislike or distrust of the health officer and possibly inspector, were apparently influences. In the other, complete failure of the health officer to carry out his duties as outlined by the regulations and to then insist on official action was the primary lack. Where public and official support has been lacking, it has or can usually be traced to some dereliction of the health officer or inspector.

SUMMARY

Food sanitation is more important today than ever before. Effective food sanitation depends upon education of the operators and employees, intelligent health department action, cooperation from operators, and public and official support. Education of operators has been done for six or seven years. It is time to require their cooperation. Unless it has already been done, steps should also be taken to insure public and official support. Lack of any of these can in most instances be traced back to health department deficiencies.

MEDICAL NEWS

(Secretaries of county medical societies and other physicians will confer a favor by sending for this section of the Journal items of news relating to society activities.)

The Scientific Exhibit at the Chicago Session of the American Medical Association, June 12-16, 1944, will be held at the Palmer House. Exhibits will cover all phases of medicine and the medical sciences with particular emphasis on graduate medical instruction for the physician in general practice.

Application blanks for space in the Scientific Exhibit are now available and may be obtained by communicating with the Director, Scientific Exhibit, American Medical Association, 535 N. Dearborn Street, Chicago 10, Illinois.

* * *

Announcement is made that the Directory of Medical Specialists is now to be published by the A. N. Marquis Company of Chicago, publishers of "Who's Who in America."

Previous editions have been published for the Advisory Board for Medical Specialties by the Columbia University Press of New York City.

It is planned not to issue the next edition before 1945, on account of the war, but the A. N. Marquis Company will publish a supplemental list of all those who have been certified by the American Boards since the last (1942) edition of the Directory, totaling about 3600. This is to be distributed at cost, and monthly or bimonthly bulletins listing successful candidates for certification at examinations during the additional interim before the next edition, are to be issued as a subscribers' service.

Dr. Paul Titus (Pittsburgh) of the American Board of Obstetrics and Gynecology will continue as the Directing Editor, and Dr. J. Stewart Rodman (Philadelphia) of the

American Board of Surgery continues as Associate Editor. The Editorial Board will be composed, as before, of the Secretaries of the fifteen American Boards.

Communications should be addressed to the Directing Editor, Directory of Medical Specialists, 919 No. Michigan Avenue, Chicago (11), Illinois.

* * *

The eighth annual meeting of The New Orleans Graduate Medical Assembly will be held March 6-9 with a program fully equal to that of last year and of previous years. A large number of guest speakers of distinction and renown have accepted invitations to be present. They include such men as Dr. Chevalier L. Jackson, the father of bronchoscopy, Dr. Robert L. Levy, Professor of Clinical Medicine at Columbia, Dr. Walter L. Palmer, Professor of Medicine, University of Chicago, Dr. Ralph H. Major, Professor of Medicine at the University of Kansas School of Medicine, Dr. Paul R. Cannon, head of the Department of Pathology at the University of Chicago, and Dr. Abraham Myerson, Clinical Professor of Psychiatry at Harvard Medical School. In the field of surgery are to be found such speakers as Commander L. Kraeer Ferguson, Assistant Professor of Surgery at the University of Pennsylvania, and Dr. George T. Pack, Assistant Professor of Clinical Surgery at Cornell University. In proctology Dr. Louis A. Buie, Chief of the Department of Proctology at the Mayo Clinic will discuss problems in this particular field. In orthopedic surgery, Dr. H. Winnett Orr, well known for his method of treatment of bone fractures, will give several papers. In obstetrics Dr. John W. Harris, Professor of Obstetrics and Gynecology at the University of Wisconsin Medical School, and Dr. Robert A. Ross, Associate Professor of Obstetrics at Duke University, will have papers on gynecologic and obstetrical conditions. Dr. Carroll S. Wright, Professor of Dermatology and Syphilology at Temple University School of Medicine, will represent the specialty of dermatology, and Dr. Frank Hinman, Clinical Professor of Urology at the University of California Medical School will give instructive talks in his particular field of medicine. Altogether the list of speakers is outstanding and to hear them will well repay those who register and attend the meeting.

The members of The New Orleans Graduate Medical Assembly will welcome visitors and speakers at this annual convocation. It is to be hoped that the attendance will equal that of last year. It is particularly desired that the members of Army and Navy installations in Alabama, Louisiana and Mississippi will feel welcome to attend the meeting.

* * *

Initiates from Alabama who were accepted into fellowship in the American College of Surgeons in 1943 are as follows:

Benjamin M. Carraway	Birmingham
Alton W. Davidson.	Bessemer
Gilbert E. Fisher	Birmingham
Robert A. Hamrick	Birmingham
Paul S. Mertins, Jr.	Montgomery
J. Banks Robertson	Fayette
Gerald H. Teasley	Athens
William D. Warrick	Birmingham
Charles H. Wilson	Birmingham
Joseph D. Wilson	Birmingham

The Birmingham Age-Herald of December 28th carried the following news comment:

Major Seale Harris, Jr., 43., died after a heart attack in Brisbane, Australia, December 22, according to a message received Monday by his father, Dr. Seale Harris, Sr. Major Harris, who enlisted in the Army Medical Corps in March, 1942, was second in command of an Army base hospital in Brisbane.

After being graduated from the University of Alabama and Johns Hopkins Medical School, Major Harris was assistant professor of medicine at Vanderbilt University eight years. He returned to Birmingham and for five years practiced medicine with his father, internationally known Birmingham physician, who was decorated for meritorious service with the Medical Corps overseas in World War I.

Commissioned a major immediately after enlisting in the Medical Corps, Major Harris sailed May 1, 1942, and for seven months was head of an Army base hospital in the Fiji Islands. The month of February, 1943, he spent on furlough with his father in the Highland Plaza Apartments here.

Major Harris was born in Union Springs, Alabama, October 7, 1900.

Survivors are the widow, who resides in Pensacola; his father, Dr. Seale Harris, Sr.; a son, Seale Harris, III; a daughter, Betty Bernie Harris, of the University of Alabama, and a sister, Mrs. Jack Koegan, Highland Plaza Apartments.

Dr. Charles F. McKhann, who has for several years been on the faculty of the University of Michigan, has resigned from that institution to accept a position as Assistant to the President of Parke, Davis and Company. Dr. McKhann will devote his time entirely to the scientific activities of the company. He assumed his new duties October 15.

At the University, Dr. McKhann has held the positions of Professor of Pediatrics and Communicable Diseases in the Medical School, and Professor of Maternal and Child Health in the School of Public Health. He has also acted as Consultant to the Secretary of War in the Control of Epidemic Diseases.

Dr. McKhann has had an interesting and exceptional background of experience. The summer of 1941, previous to coming to the University of Michigan, he acted as Consultant to the Board of Health, Territory of Hawaii. From 1936 to 1940 he held the position of Associate Professor of Pediatrics and Communicable Diseases at Harvard Medical School and Harvard School of Public Health. Before that he spent a year as Visiting Professor of Pediatrics and Communicable Diseases at Peiping Union Medical College, Peiping, China.

Since 1930 he has conducted and directed research on communicable diseases, immunology, renal diseases, nutritional diseases, and on certain phases of toxicology. He developed and introduced immune globulin and has contributed to the development of several other products.

Dr. McKhann is a member of the Michigan State Medical Society, American Medical Association, American Society for Clinical Investigation (Vice-President, 1943), American College of Physicians, American Academy of Pediatrics, Society for Pediatric Research (President, 1936) and American Public Health Association.

* * *

There is a critical need for medical and surgical supplies that may lie hidden and forgotten in physicians' offices: discarded or tarnished instrument—surplus drugs—vitamins—infant foods. Collected, packaged, sent to the Medical and Surgical Relief Committee, 420 Lexington Avenue, New York City, they can play a vital role in its program of medical relief for the armed and civilian forces of the United Nations.

Surgical instruments and medicines are sought-after by physicians and pharmacist's mates of our Navy . . . are hungrily snatched by the medical corps of our Allies. The work of war-zone hospitals and welfare agencies is too often crippled by the lack of medical supplies. Community nurseries in this country, refugee camps abroad cry out for vitamins and baby foods for their ill-nourished charges.

The Committee has supplied over 900 subhunting and patrolling ships of the Navy with emergency medical kits; equipped battle-dressing stations on battleships, destroyers, and cruisers. The Committee's roll-call of medical requests—not one of which has been turned away—reads like a world geography: the Fighting French in North Africa and Tahiti; the Royal Norwegians in Canada and Iceland; the West Indies; South and Central Africa; China; India; Great Britain; Yugoslavia; Greece; Syria; Russia; Alaska and, of course, the United States.

To meet the demands that pour into headquarters, the Committee needs all types of instruments, especially clamps, scalpels, forceps, and all kinds of drugs from iodine to sulfa products. By contributing what you can spare, you will help speed another shipment of sorely-needed medical aid.

A streamlined process of penicillin production, resulting from two years' research in the Parke, Davis Laboratories, promises to substantially cut down the production time required, according to Homer C. Fritsch, General Manager of the Company.

"The present method of producing penicillin requires from $6\frac{1}{2}$ to 14 days," he said in an interview recently. "We have advanced our methods to where we can produce in $2\frac{1}{2}$ to 3 days without using cumbersome equipment."

This constitutes a significant forward step, since the bottle-neck in the penicillin situation, to date, has been the fact that the drug has been available only in comparatively small amounts. Parke, Davis & Company is now regularly supplying penicillin to the government and has recently expanded its facilities for producing the drug.

* * *

Twenty-two cities distributed throughout the United States and Canada have been selected by the American College of Surgeons as headquarters for one-day war sessions to be held in March and April, 1944. Advancements in military medicine and developments in civilian medical research and practice under the spur of the war emergency will be presented by authorities rep-

resenting governmental agencies and by ci-

vilian physicians and surgeons.

The meetings will be open to the profession at large, including medical officers of the Army and the Navy, residents, interns, medical students, and executive personnel in hospitals. For the latter special hospital conferences, to be held simultaneously with the scientific sessions, are being arranged. Those who plan to attend the war sessions may select the meeting which in place or time is most convenient, regardless of the states and provinces which, for the purposes of organization, are designed on the schedule as participating in a given meeting.

The United States Army, Navy, Public Health Service, Veterans Administration, Procurement and Assignment Service, and the Office of Civilian Defense, are assigning representatives to participate in the meetings. In Canada, the corresponding agencies are likewise assigning official representatives. Experiences of medical officers who have been on active duty in combat zones will be especially featured. In the hospital conferences, such agencies as the War Production Board, the War Manpower Commission, the American Red Cross, and groups interested in student nurse recruitment, will

be represented.

Each meeting will open at 8:30 A. M. with the showing of official U.S. Army and U.S. Navy films on medical and surgical subjects, such as evacuation of the wounded, fractures, burns, and treatment of wounds. From 8:30 to 11:30 Army and Navy representatives who have been on active duty abroad will report; from 11:30 to noon representatives of the Public Health Service will report on measures for the control of endemic and epidemic diseases. Current problems of the Procurement and Assignment Service will be presented by a representative at the luncheon conference from 12:15 to 2:00 o'clock. Between 2:15 and 5:00 P. M., three scientific presentations by medical members of the armed forces and by civilian members of the medical profession will be made; a scientific presentation will be made by a representative of a medical service in industry; and the program for veterans will

be presented by a representative of the Veterans Administration. From 5:00 to 5:30 P. M. the need for protective services in time of war will be presented by a representative of the Office of Civilian Defense. The concluding session will be a dinner meeting and open forum with all participants in the day's program as the panel of experts to lead discussion of any and all subjects presented during the day together with other problems of interest to the medical and hospital professions. The motion picture showing, public health service session, luncheon conference, civilian defense program, and the dinner meeting and open forum will be attended by both the medical and hospital groups. The hospital representatives will discuss wartime hospital problems and how they are being solved from 9:30 to 11:30 A. M., and will hold a round table conference on "Wartime Hospital Service" from 2:15 to 5:00 P. M.

Meeting in the vicinity of Alabama is scheduled for Jacksonville, March 27th, at The George Washington Hotel.

Vitamin D has been so successful in preventing rickets during infancy that there has been little emphasis on continuing its use after the second year.

But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present at late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

At the suggestion of the Medical Division of the U.S. Office of Civilian Defense, to prevent dangerous delay in diagnosis and to

insure proper treatment during unconsciousness or coma, Eli Lilly and Company, Indianapolis 6, Indiana, in co-operation with the American Diabetes Association, will provide metallic indentification tags to be

worn by diabetic patients or carried in the pocket. The inscription reads "Diabetic, If Ill Call Physician." No advertising of any sort appears on the tags, which will be supplied to the medical profession on request.

BOOK ABSTRACTS AND REVIEWS

War Medicine. A Symposium. Edited by Winfield Scott Pugh, M. D., Commander (MC) U. S. N., retired, Formerly Surgeon, City Hospital, New York. Cloth. Price \$7.50. Pp. 565 with illustrations. New York: Philosophical Library, Inc., 1943.

This book was primarily composed for the aid of physicians and surgeons in the armed forces. It consists of a group of selected articles which have previously appeared in various medical and surgical journals and have now been arranged in one volume and presented as a symposium. The articles all relate to various aspects of warfare casualties but these differ little from our every day emergencies seen on the home front as we too are confronted often enough with gunshot injuries and the terrible mangling injuries from high speed machines and traveling. The authors of the articles are American and British doctors who have had their articles appear in journals in both of these countries. The book is composed in such a manner that the first two articles are planned so as to orient the reader with the principles of war surgery and the mechanism for its function under war time conditions. There are many articles which deal with every phase of war surgery from physiology to treatment. There is one article in this book which is outstanding and should be carefully read and that article concerns "Healing of Wounds." Most of us have read various articles concerning one or the other phase of wound healing but here we have integrated all of the phases of this subject. The article should stimulate a great deal of research on this subject for it certainly makes us stop and think about whether the "accustomed manner of treating wounds is rational." Major Bowers is to be congratulated for this thought stimulating article. It is disappointing to find the same things said about burns in book after book but this is of course due to the slow progress made in burn treatment. A good many of the articles are on highly specialized subjects, such as ocular injuries, ear drum rupture, aviation medicine, medical aspects of deep sea diving, high altitude flying, allergy, malingering and innumerable other subjects. But all in all this volume makes most interesting reading and should be of much value to either the war surgeon or the "home front" surgeon.

Philip K. Burwell.

Holt's Care and Feeding of Children. Revised and enlarged by L. Emmett Holt, Jr., M. D., Associate Professor of Pediatrics, Johns Hopkins University; Associate Pediatrician, Johns Hopkins Hospital, Baltimore, Marvland. Cloth. Price, \$2.00. Pp. 324. New York: D. Appleton-Century Company, 1943.

The present edition of this long-time household guide continues most acceptably the very practical question and answer presentation of information. It is thoroughly abreast of the times and offers sound advice for almost every situation that may arise.

In the matter of the unpleasant taste of evaponated milk and its use by older children, mention was not made of the addition of lemon or orange juice which makes these milks pleasing to most children and, at the same time, gives additional vitamin C. It is advised that when blowing the nose, the child should be taught to close but one nostril. This does not follow the teaching of many otologists who recommend, rather, that drawing back and expectoration of secretions is far preferable. If blowing is done at all, both rostrils should be entirely open.

The reading of this volume is both pleasurable and stimulating, and it ranks very high in its field both for the general practitioner and parents.

William D. Lyon.

SAYS COLD VACCINE SALES UNWARRANT-ED COMMERCIAL ASSAULT ON PUBLIC PURSE

The prescription and sale of cold vaccines is an unwarranted commercial assault on the public pocketbook, The Journal of the American Medical Association for January 22 declares. The Journal says:

"Recent communications to the offices of the American Medical Association indicate that the prescription and sale of cold vaccines is again taking place on a large scale. This, in the face of the recognized lack of scientific evidence for the value of these preparations, is indication of irresponsibility on the part of some manufacturers of pharmaceuticals. The scientific evidence against the value of oral cold vaccines is consequently individual overwhelming; physicians and firms who deal in pharmaceuticals and who lend themselves to wholesale uncontrolled distribution of such preparations are perpetrating an unwarranted commercial assault on the public pocketbook."

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PILONIDAL CYSTS AND SINUSES

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From reports of Army surgeons in recent months, we learn that the pilonidal cyst or sinus has become a major surgical problem in military hospitals. It seems advisable for civilian surgeons to review the subject, in the light of these reports, and, perhaps, to assume a more aggressive attitude in dealing with the lesions than has formerly been their practice.

Stone¹ reported a series of 61 cases in 1923 and said: "Less than a dozen original articles have been found in the literature in a fairly extensive search covering the past 60 years." Until recently, the literature has shown a like paucity of reports. With the induction of large numbers of young men into the armed forces, the literature, previously barren of papers on this subject, has undergone a change. Between November 1942 and February 1943, without attempting any search of the literature, five papers on pilonidal sinuses have been noted in leading surgical journals, with new papers and abstracts appearing in many succeeding issues. All these reports tell the same story; namely, infection of a previously quiescent cyst or sinus. This infection is attributed to the arduous and rugged training that troops un-Jergo, and results in prolonged disability and loss of time from military training. For example, Col. B. L. Coley,2 Surgical Consultant to the Eighth Service Command, reports that "during the first nine months of 1942, this Service Command had 780 admissions of pilonidal cyst cases to its hospitals. These were responsible for more than 20,000 man-days lost in the training program.

To attempt a complete summary of reports from Army hospitals would be unnecessarily repetitious and would serve no useful purpose, but, as examples of what is happening in every section of the country, the following statistics are submitted:

DePrizie,3 from H. G. Wright Hospital. New York, reports that he found the lesion in one per cent of privates and non-commissioned officers. Brezin,4 from Station Hospital, Ft. Bragg, N. C., reports that 33.3 per cent of patients admitted to the Septic Surgical Service during the first Army maneuvers in the Carolinas (1941) suffered from pilonidal abscesses. Scott,⁵ from Ft. Belvoir, Va., reports 94 cases operated on with primary closure between February 1941 and October 1942. Camp and Polites,6 from Camp Polk, La., report 54 cases applying for treatment in 12 months. Waldenberg and Sharpe, from Lagarde Hospital, Louisiana, report 133 cases operated on between August 1, 1941 and August 1, 1942.

Waldenberg and Sharpe clearly state the problem as it affects the Army hospital.

^{3.} DePrizie, Carl T.: Pilonidal Cysts, A New and Improved Type of Operation, Mil. Surg. 91: 292, 1942.

^{4.} Brezin, David: Pilonidal Cysts. New Procedure for Operation and Treatment, Am. J. Surg. 59: No. 1 (Jan.) 1943.

^{5.} Scott, James V.: Pilonidal Cyst. The Local Use of Buffered Sulfanilamide in Primary Closure, Ann. Surg. 117: No. 2 (Feb.) 1943.

^{6.} Camp, M. N., and Polites, Nicholas: Symptomatic Pilonidal Cyst. Operative Treatment, Am. J. Surg. 59: No. 3 (March) 1943.

^{7.} Waldenberg & Sharpe: Surgical Treatment of Pilonidal Cysts, Surg. Gynec. & Obst. 76: No. 2 (Feb.) 1943.

^{1.} Stone, Harvey B.: Pilonidal Sinus, Tr. South. S. A. 36: 107-114, 1923.

^{2.} Coley, B. L.: Experiences of a Surgical Consultant of a Service Command, Ann. Surg. 118: No. 4, 1943.

They say: "At the present time soldiers between the ages of 20 and 25 are pouring into Army hospitals requesting attention for infected and draining pilonidal cysts. The problems associated with the management of the lesion in civil hospital practice are multiple and often aggravating. The same problems arising in military hospitals with the disease in men assigned to full military duty become formidable. There is little space available for prolonged hospitalization and no provision for extended convalescence. General hospitals in the Army could not undertake the excision of pilonidal cysts at the rate of 130 or more a year, one every third day, if each case were to remain two or three months. Therefore, many of the recognized operative procedures, such as excision and packing without closure, with its attendant delayed healing for from two to six months, must be supplanted." They advocate complete excision of the cyst with primary closure of the wound, after preliminary cleaning up of abscesses and infections. In 100 cases so treated there were 2 per cent recurrences. Wounds healed in an average of 21.5 days and patients were returned to duty on an average of 28 days.7 This general plan of treatment is being practiced in other Army hospitals and comparable results are being generally obtained.

Increased interest in this lesion prompts a review of some of its salient features. The pilonidal cyst is an interesting manifestation of arrest in fetal development. It is present in from 1 to 3 per cent of humans; is more frequently observed in men than in women; it was thought not to occur in negroes until recently when a number of cases have been reported among colored troops. The cyst or sinus is so situated, in the median raphe over the sacro-coccygeal region well covered in by the overhanging buttocks on either side, that one may not be conscious of its existence until a painful swelling or a discharging sinus brings it to his notice.

My attention was first directed to the pilonidal cyst in 1923 when Stone¹ of Baltimore presented a paper at the meeting of the Southern Surgical Association entitled "Pilonidal Sinus or Coccygeal fistula." He reported a series of 61 cases: 51 or 84 per cent were in males, and 10 or 16 per cent were in females. He discussed the embryology and the pathology of the sinus and advocated complete surgical removal. This practice I have followed since reading his paper. At the 1937 meeting of the Southern Surgical Association, Gage of New Orleans presented a paper on the same subject, a considerable part of which was devoted to a discussion of the embryology. He is in agreement with Stone and other surgeons that complete excision is essential for cure, and advocates excision and complete closure. In the infected case it is necessary, of course, to await preliminary preparation before proceeding with excision and suture.

EMBRYOLOGY

Embryologists disagree as to the exact origin of the pilonidal sinus. Ewing's Neoplastic Diseases, 4th edition, in the chapter on Teratology, expresses this view: "The complex processes occurring in the caudal extremity form the basis of a series of fistulae, cysts, and tumors in this region. The entire group is not only numerous but complex, and a rigid classification is at present impossible." Boyd's Surgical Pathology, 4th edition, devotes only a short paragraph to it and says: "A pilonidal cyst, as its name suggests, is a hair-containing dermoid in the sacro-coccygeal region" and illustrates his remarks with a photograph of a large pilonidal cyst containing an abundance of hair. 10

In 1935, two notable contributions to the study of the origin of the cysts appeared. In Archives of Surgery, August 1935, Gage published a paper entitled "Pilonidal Sinus-An Explanation of its Embryological Develcpment."11 In Surgery, Gynecology & Obstetrics, February 1935, S. L. Fox of Baltimore, published a paper entitled "The Origin of Pilonidal Sinus; With an Analysis of its Comparative Anatomy and Histogenesis."12 Gage undertakes to prove that the cyst results from failure of obliteration of the caudal end of the medullary canal. Fox's studies lead to the conclusion that the sinus resulted from downgrowth of epithelium in the de-

of Its Embryological Development, Arch. Surg. 31: No. 2 (Aug.) 1935.

12. Fox, S. L.: The Origin of Pilonidal Sinus; With an Analysis of Its Comparative Anatomy and Histogenesis, Surg., Gynec. & Obst. 60: No. 2 (Feb.) 1935.

^{8.} Gage, M.: Pilonidal Sinus, Tr. South. S. A. 50: 52-70, 1937.

^{9.} Ewing, James: Neoplastic Diseases, ed. 4,

Philadelphia, W. B. Saunders Company. 10. Boyd, Wm.: Surgical Pathology Surgical Pathology, ed. 4, Philadelphia, W. B. Saunders Company.

11. Gage, M.: Pilonidal Sinus—An Explanation

veloping embryo. Stone and others are in agreement with the conclusions reached by Fox. Mallory, ¹³ as a result of studies carried cut in 1892 and reported at that time, held the same view as that enunciated by Gage. Apparently further study must be made if a definite source of origin is to be established.

PATHOLOGY

The pathology likewise is the subject of considerable discussion. It is claimed that the term "pilonidal," which simply means "hair nest" is a misnomer, as hairs are not always found. In one of Stone's cases, he was able to dissect out completely an uninfected sinus and records the histology as observed in this case. He says "The lumen of the sinus contained hairs. The inner portion of the wall was of many layers of stratified cuboidal epithelium with only slight cornification adjacent to the lumen, but with imperfect and rudimentary papillae in certain areas. Hair follicles were seen and also sweat glands. Outside the epithelial layer was a dense corium-like sheath, and beyond this loose fat and areola tissue."1

Gage's says: "The gross pathological manifestations of pilonidal sinuses are more or less constant. There are single or multiple sinus openings which connect with cystic dilatations located subcutaneously. The sinuses may extend deeply toward the sacrum or a bulbous dilatation may be present at its distal end." He describes four types:

1. Sacro-coccygeal dimple and sacro-coccygeal dimple-sinus.

2. True pilonidal sinus confined to the subcutaneous tissue.

3. True pilonidal sinus extending into the sacral canal.

4. True pilonidal sinuses which are continuous with the subarachnoid space and canal of the spinal cord.

Whether treated by excision and suture, which is the ideal method, excision by knife or cautery followed by packing, or attempted destruction of epithelial lining by sclerosing agents, recurrences are frequently observed.

Recurrence, or failure to cure, is attributed to three main causes: Infection in cysts or in primary or secondary sinus tracts; failure to remove entirely all epithelial-lined accessory tracts; or failure to obliterate the dead space at the bottom of the wound,

13. Mallory, F. B.: Sacro-Coccygeal Dimples, Sinuses and Cysts, Am. J. M. Sc. 103: 263, 1892.

which is inherent on account of the nature of the wound.

To overcome the first obstacle, extreme care must be exercised in evacuating abscesses and in clearing up infection by hot soaks and baths before undertaking radical operations. To overcome the second, all accessory epithelial-lined tracts must be diligently sought for and removed. The overcoming of the third obstacle, namely, the obliteration of the dead space at the bottom of the wound, has taxed the ingenuity of the most skillful surgeons. The usual procedure is to make an elliptical incision around the sinus tract and to excise all soft tissues down to the fascial covering of the sacrum, to give careful attention to hemostasis, to excise all accessory tracts, to reconstruct the wound as accurately as possible, and to employ a compression dressing to obliterate further the dead space. Unfortunately, such operations have not always proven satisfactory, hence surgeons have added certain technical steps to overcome special difficulties, and many plastic operations have been devised. We do not have space for the details of special operative measures or preparatory procedures, but references are appended to this paper where the interested reader may find descriptions of operations devised and practiced by Burch,14 Lahey,15 Brezin,⁴ Cohn,¹⁶ Gage,¹¹, Mac Fee,¹⁷ and others.

Few if any operations in Army hospitals have been on patients who had not developed infection in their cysts. In Burch's series of fifty nine cases, 14 none were asymptomatic. He records that the two outstanding symptoms were pain or discharge, while the objective signs were inflammatory induration or sinus formation. Under these circumstances, much time must be lost in preliminary treatment directed to overcoming the infection, and the prospect of obtaining

^{14.} Shute, F. C.; Smith, T. E.; Levine, Max, and Burch, John C.: Pilonidal Cysts and Sinuses, Ann. Surg. 118: No. 4 (Oct.) 1943.

^{15.} Lahey, Frank H.: An Operation for Pilonidal Sinus, Surg., Gynec. & Qbst. 48: No. 1 (January) 1929. A Further Suggestion for the Operative Treatment of Pilonidal Sinuses, Surg., Gynec. & Obst. 54: No. 3 (March) 1932.

^{16.} Cohn, Isidore: On Operation for Pilonidal Sinus, Am. J. Surg. 61: No. 1 (July) 1943.

Sinus, Am. J. Surg. 61: No. 1 (July) 1943. 17. Mac Fee, Wm. F.: Pilonidal Cysts and Sinuses. A Method of Wound Closure, Ann. Surg. 116: No. 5 (November) 1942.

primary union in a closed operation is materially lessened.

In the paper¹ already referred to, Stone advises that "cases seen before infection has occurred should be excised, as such wounds may be closed cleanly, the operation is short and easy, and the probability of later infection through the open orifice is thus avoided. This is not meddlesome surgery but sound prophylactic surgery." The wisdom of this advise given 20 years ago by a civilian surgeon to civilian surgeons has been demonstrated by the experiences of Army surgeons in the present conflict. One cannot estimate the cost to the country that has resulted from hospitalization, nursing, and operating on the thousands of soldiers and sailors who have required treatment for infected pilonidal cysts. Much of this would have been eliminated if Stone's advice had been more generally followed.

SUMMARY

In dealing with these cases, the following points should be considered:

- 1. The pilonidal sinus must be treated by complete surgical removal.
- 2. The most satisfactorcy procedure is excision and complete closure.
- 3. Where the nature of the case makes this impossible or impractical, excision with open packing is a poor second choice.
- 4. Infected sinuses must be given adequate preparatory treatment before a radical operation is undertaken.
- 5. The sinus, together with all accessory pockets or tracts, must be removed.
 - 6. Absolute hemostasis must be obtained.
 - 7. All dead spaces must be obliterated.
- 8. Skin edges must be accurately approximated.
- 9. Sulfonamides should be used both locally and orally.
- 10. Should the wound become infected, measures usually employed in infected wounds are to be resorted to.

BROMIDE INTOXICATION

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And

GEORGIA JOHNSON, Medical Technologist Tuscaloosa, Alabama

Bromine, discovered in 1826 by the French chemist, Balard, was first reported upon therapeutically by Graf in 1838. Bromide intoxication was first called to the attention of the scientific world by Heutte in 1850, who reported one case and discussed the sedative and toxic effects of the bromides. Andrews related the incident of the entire family of an English apothecary developing a toxic bromide psychosis because of a servant's mistaking a barrel of sodium bromide for sodium chloride, the two barrels being in juxtaposition. Unknowingly the family salt cellars had been filled with sodium bromide instead of table salt.

Since the introduction by Wuth in 1927 of a simple colorimetric method for the quantitative determination of bromides in the blood serum, a number of more clearly defined studies of various aspects of bromide intoxication have appeared in medical literature. Wagner and Bunbury in 1930 report-

ed that 4.4% of 1000 consecutive cases admitted to the Colorado Psychopathic Hospital had mental symptoms due to or increased by bromides. Harding and Harding in 1934 estimated the incidence of bromide intoxication at from 3% to 5% of admissions to state hospitals and reported 4.4% of the admissions to a private psychiatric hospital as due to bromide intoxication. Curran (1938) summarized the literature of bromide intoxication and presented data on fifty cases of bromide psychosis admitted to Bellevue Psychiatric Hospital, the majority of which used bromides following alcoholism. Hanes and Yates (1938) reported that, in approximately 0.9 per cent of the total admissions to Duke Hospital, bromide in abnormal amounts has been demonstrated in the blood.

In 1936 we began the routine examination for bromides of blood sera of all patients admitted to Bryce Hospital. We were able to

do this by utilizing a simple chemical test suggested to us by one of our psychiatric colleagues. It consists of adding, drop by drop, 0.5% aqueous solution of acid brown gold chloride to the test tubes containing blood serum, after the amount needed for Kahn and complement fixation tests (which, of course, are routine) had been removed. A color change, ranging from yellowish brown to a reddish brown character, readily occurs if bromide is present. With a little experience one is able to detect amounts of as little as 25 mg. per cent or less. We then ran a quantitative bromide determination on all patients giving a positive reaction, using Katzenbolgen's and Czarski's modification of the Hauptman test.

In 1938 one of us reported on 803 tests of consecutive admissions to Bryce Hospital. In the present report we attempt to give greater statistical elaboration to the incidence of bromide intoxication and more experimental and clinical data regarding it.

To date we have examined the blood sera of over 8000 consecutive admissions, of which the data from 7567 form the basis of this report. In order to learn in what types of psychiatric disorders bromides were more often administered, we analyzed 1000 consecutive male admissions and 1000 consecutive female admissions and found that 81 men and 142 women showed a positive test for bromides. Of these positives, 19 men (1.9% of the total male admissions) and 37 women (3.7%) of the total female admissions) showed a toxic reaction, this being diagnosed on the basis of the clinical picture plus the percentage of bromide in the blood serum. These patients included practically all of the various types of psychiatric disorders of both organic and functional groupings. See Table I.

Since our patients are all from Alabama and our original report appeared in this Journal, we were interested to know if in the years following our report there resulted a lower incidence of bromide use and intoxication. Table II shows no improvement in this respect with practically the same percentage of toxic cases in male admissions and a slight increase in women.

Desirous of knowing how quickly a bromide intoxication might develop and following what amounts ingested, we gave sodium bromide to eight volunteer subjects. These volunteers continued to live as they did prior

TABLE I

SHOWING TYPES OF PSYCHIATRIC DISORDERS OF PATIENTS PRESENTING POSITIVE BLOOD BRO-MIDE PER 1,000 CONSECUTIVE MALE ADMIS-SIONS AND 1,000 FEMALE ADMISSIONS

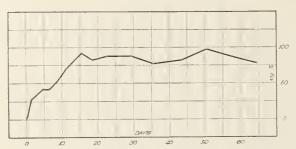
TYPE OF PSYCHIA- TRIC DISORDERS	Number Positive	Males Number with Toxic Mani- festations	Number Positive	Females Number with Toxic Mani- festations
Psychosis with syphilitic meningo-encephalitis Psychosis with other or- ganic diseases of the	9	2	4	2
central nervous system Psychosis with cerebral	2	0	2	0
arteriosclerosis Senile psychosis Manic depressive psychos	7 2	1	7 2	3
Manic type Depressive type	13 12	3	29 30	4 5 3 2 0 1
Involutional melancholia	2 8 1	0	5	3
Dementia precox Paranoid condition	1	0	13	0
Psychoneurosis	8	ĭ	17	1
Psychosis with mental deficiency	1	0	2	0
Epileptic psychosis	1	0	7	1
Psychosis due to drugs Without psychosis	1 7 8	7	16 7	16 0
Without psychosis TOTALS	81	19	142	37
PERCENTAGES	8.1%	1.9%	14.2%	3.7%

TABLE II SHOWING INCIDENCE OF POSITIVE BROMIDE AND BROMIDE INTOXICATION IN CONSECUTVE MALE AND FEMALE ADMISSIONS

FISCAL YEAR		Male	es		
	Number Consecutive Admissions	Number Positive	Per Cent Positive	Number Toxic	Per Cent Toxie
1936-38 1938-39 1939-40 1940-41 1941-42 TOTAL	1000 662 812 735 719 3928	81 30 59 76 83 329	8.1% 4.5% 7.3% 10.3% 11.5% 8.3%	19 12 17 17 13 78	1.9 1.8 2.0 2.3 1.8 1.9
		Fema	ales		
1936-38 1938-39 1939-40 1940-41 1941-42 TOTAL	1000 556 759 676 648 3639	142 49 105 87 128 516	14.2% 8.8% 13.8% 12.8% 18.3% 14.1%	37 21 47 27 43 175	3.7% 3.6% 6.1% 4.0% 6.6% 4.8%
		ale and	Female)		
	Total Cases Total No. T Percentage			7.567 253 3.3%	

to taking the bromide, had no change in diet, and water was available at all times though no suggestions as to fluid intake were made. Table salt was available at meal times but no information as to the influence of sodium chloride on bromide retention was advanced. Hence, the subjects had no restrictions or suggestions as to food, water, salt or exercise.

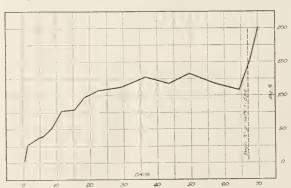
Four subjects—A, B, C, & D—took 10 grains of sodium bromide three times a day after meals. Two, E. & F, took 20 grains of sodium bromide three times a day after



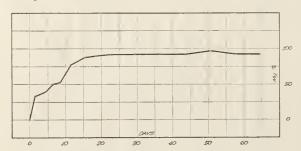
Case A.—Age 28. Wt. 170 lbs. 10 grains NaBr. t.i.d.p.c.



Case B.—Age 47. Wt. 137 lbs. 10 grains NaBr. t.i.d.p.c.

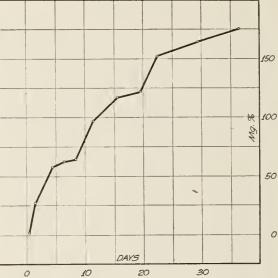


Case C.—Age 37. Wt. 125 lbs. 10 grains NaBr. t.i.d.p.c.

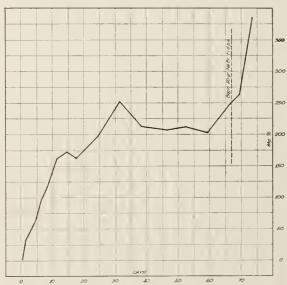


Case D.—Age 32. Wt. 138 lbs. 10 grains NaBr. t.i.d.p.c.

meals, and two subjects, G & H, took 30 grains three times a day after meals. To some cases—C, F, G—additional sodium bromide was given toward the end of the experiment, this in order to determine satura-

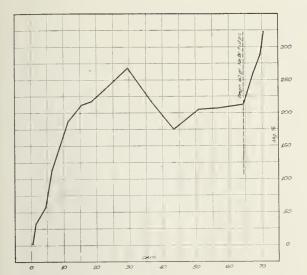


Case E.—Age 56. Wt. 132 lbs. 20 grains NaBr. t.i.d.p.c.

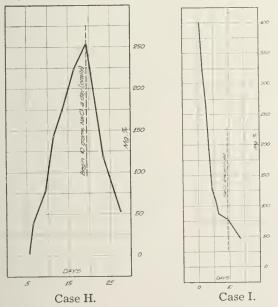


Case F.—Age 27. Wt. 102 lbs. 20 grains NaBr. t.i.d.p.c.

tion effects of larger doses of sodium bromide. The results depicted in Charts A, B, C, D, E, F, G & H show roughly that 10 grains may reach a concentration of 150 milligrams per 100 cc. of blood, which is a toxic level in some individuals; that larger doses, i.e., 20 and 30 grains three times a day give rise to a toxic level within a relatively short time. Case G reached the toxic level of 253 mg. per cent on the fifteenth day and was then placed on 10 grams of sodium chloride daily and the resulting fall in concentration of sodium bromide is noted. Case I shows the influence of sodium chloride on bromide concentra-



Case G.—Age 16. Wt. 108 lbs. 30 grains NaBr. t.i.d.p.c.



Case H.—Age 18. Wt. 140 lbs. 30 grains NaBr. t.i.d.p.c.

Case I.—Age 32. Wt. 152 lbs. Showing effects of 10 grains NaCl. a day orally.

tions after cessation of bromide ingestion. These results were similar to those of Cross, who, in 1936, reported giving 15 grains of sodium bromide three times a day with a resulting bromide concentration of 130 mg. per cent after one week and 210 mg. per cent after three weeks. Barbour demonstrated the tendency of bromide to remain in the blood unless salt therapy is instituted by his patient, who had an initial concentration of 250 mg. and after nine drug free weeks still

had 90 mg. per 100 cc. of blood. Such slow elimination is in marked contrast to our Cases H & I treated with sodium chloride.

SYMPTOMS

The earliest symptoms of bromide intoxication are vague. They are dull headache, constipation, fatigue, irritability, restlessness and loss of appetite. Gradually the patient begins to have difficulty in concentrating and his memory becomes poor. Slight ataxia develops. These symptoms are seen frequently with a blood bromide concentration of less than 100 mg. per cent. If bromide medication is continued the pupils become dilated, the knee jerks are diminished, the tongue becomes furred, the breath foul and the speech tremulous. Soon the confusion and disorientation are marked. Hallucinations (usually of a frightening nature) appear and the patient becomes extremely fearful. He frequently feels that other patients are being murdered in another part of the building and that soon it will be his turn. Many see large animals which frighten them. Therefore, most of the severe cases are constantly pleading for protection. In such a condition few patients can obtain rest and unless cared for carefully they will exhaust themselves and collapse physically. At best we can expect considerable loss of weight and cachexia in the more severe cases. Contrary to the general belief few of our patients had marked skin manifestations.

The above picture in large measure holds true for any toxic delirium. Although it is our opinion that the furred tongue, the foul breath and the constipation are more marked when bromide is the etiologic agent, the only pathognomonic finding is the presence of significant amounts of bromide in the blood. In our series we found toxic symptoms in persons whose blood bromides were as low as 50 mg. per cent. The highest concentration found was 442 mg. per cent. We believe that a delirium can be produced in the average person by giving sufficient bromides to attain a blood bromide level of 250 mg, per cent and that a similar state can be reached in the debilitated, the senile or the arteriosclerotic at a much lower level.

TREATMENT

The treatment consists mainly of sodium chloride, fluids, sedation and general supportive measures. Nine to twelve grams of sodium chloride are given daily, either in the form of tablets (1 or 2 grams each) or in tomato juice or bullion. If the patient does not take fluids well by mouth, 1000 cc. infusions of 5% glucose in saline are given once or twice a day. Marked restlessness may be combated satisfactorily by 4 to 6 drams of paraldehyde by mouth or, if necessary, by nasal tube. Frequently we mix 10 cc. of paraldehyde with the infusion by injecting this amount into the glucose vacoliter and shaking well.

While the above constitutes the more important phase of the treatment we must still be on guard against circulatory collapse, marked constipation, fecal impactions and the onset of other complicating disorders. The mouth and teeth may be cleaned with a mixture of lemon juice and glycerine, which not only cleanses well but combats the extreme dryness usually present.

The rationale of the salt treatment is based on the replacement of the sodium bromide in the organism by sodium chloride for which the body apparently has a greater affinity.

The other measures are aimed at the maintenance of a satisfactory tissue-fluid balance, the prevention of physical exhaustion or collapse, and the comfort of the patient.

SUMMARY AND CONCLUSIONS

We have called attention to the frequent use of bromides in patients admitted to a state hospital for mental diseases and the frequent occurrence of bromide intoxication, causing not only a delirium in its own right but also clouding the picture of other underlying psychoses. We caution physicians against the indiscriminate use of bromides and warn that their patients may already be taking bromides in unknown amounts through the use of such patent medicines as Miles' Nervine, Bromo-Seltzer, Stanback and B-C powders. We have demonstrated the ease and rapidity with which bromide becomes concentrated in the blood serum and we have shown graphically the effectiveness of salt in hastening the elimination of bromide from the blood and tissues. A description of the signs and symptoms of bromide intoxication is given to facilitate the recognition of this pathologic condition.

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Polycythemia Vera—The treatment of polycythemia vera has undergone considerable revision in recent years. Many years ago the treatment of choice was the administration of some drug that would destroy the excessive number of red cells. The most popular one was acetyl phenylhydrazine. However, this treatment is not without danger because of the increased pigments released from the excessive cellular destruction. The most effective treatment today is repeated venesection and this is the type of therapy that we employ routinely. These patients should be bled sufficiently to keep the hematocrit level always below 50 and preferably nearer 45. The number of venesections necessary to accomplish this varies in different patients and depends of course upon the extent of hematopoietic activity, but in the average patient bleeding every two to four weeks is sufficient to keep the hematocrit level down to that figure.—Kracke, South. M. J., Feb. '44.

NEXT ANNUAL MEETING OF THE ASSOCIATION MONTGOMERY, APRIL 18-20, 1944

IMPORTANCE OF WEIGHT IN ANTEPARTUM SUPERVISION

TREATMENT OF TOXEMIA

W. A. CUNNINGHAM, M. D. Montgomery, Alabama

It is our studied conclusion that the weight of antepartum patients, if properly analysed and if appropriate measures are taken for abnormalities encountered, is the most important single factor in combating late toxemia of pregnancy.

Unfortunately most statistical articles on toxemia of pregnancy, as with other diseases, deal with mortality and not with morbidity tables. There is a plethora of statistics on maternal mortality in counties, states and the nation, and we are told that from one-third to one-half of these women could have been saved by proper antepartum, delivery and postpartum care. This is probably true, but how about morbidity? In the field of public health obstetrics we are even more interested in how to control or prevent morbidity in pregnancy. Late toxemia is the most frequent and serious of these diseases.

In our study, the charts of 357 women who had attended antepartum clinics in various parts of Alabama were analysed for weight abnormalities, either alone or in combination with other toxemic signs and symptoms, for blood pressure abnormalities, and for symptoms alone that might be construed as toxemic. The reason that only these factors were included in our analysis was that they are simple to ascertain and require a minimum of time from the physician. The relative importance of weight to blood pressure and toxemic signs and symptoms can be ascertained, and no clinician has any excuse for giving them insufficient attention. The criterion for weight abnormality was a gain of more than one pound per week or twenty pounds for the entire pregnancy; that for blood pressure abnormality was a systolic of over 150 and/or a diastolic over 95. Under toxemic symptoms we included regularly recurring headaches, dizziness, spots before the eyes and nervousness; under toxemic signs, such findings as edema, albumin,

There should be three factors in charting

antepartum weight: (1) previous non-pregnant weight, (2) weight at first visit, and (3) weight at each succeeding visit. Our clinic case records have weight graphs based on a maximum gain of one pound per week, and any gain over this amount is seen at a glance by the clinician. We investigated sudden weight increase as well as total excessive gain, and where there was abnormal weight increase alone without other toxemic signs or symptoms we investigated the results of prompt antitoxemic treatment.

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In our analysis we classified every patient who exhibited abnormality of weight or blood pressure or who had any of the above signs and symptoms as toxemic. This was because we believe all such patients should be on antitoxemic treatment whether actually toxemic or not. Obviously the percentage of total cases analysed that would thus be classified as toxemic would necessarily be high (37%).

TABLE 1

PERCENTAGE ANALYSIS OF TOXEMIC PATIENTS ACCORDING TO SIGNS AND SYMPTOMS. TOTAL CASES ANALYSED 357. CASES WITH ABNORMALITIES 134

Abnormal- ities of	Weight Alone	Weight & Symptoms	Weight & Blood Pressure	Blood Pressure Alone	B. P. and Symptoms	Symptoms Alone	Total
Number Percentage	50 38	38 28	26 20	5 4	9 7	6	134 37

SUMMARY

- 1. Eighty-five per cent of toxemic patients exhibit abnormalities of weight increase, either alone or in combination with other signs and symptoms.
- 2. Thirty-eight per cent exhibit weight increase abnormality alone.
- 3. Only 31% show abnormal blood pressure increase either alone or in combination with other toxemic signs and symptoms.
- 4. Only 4% show abnormal blood pressure increase alone.

The ratio of weight to blood pressure abnormalities is three to one.

COMMENT

1. Weight is by far the most important single factor in detecting and treating tox-

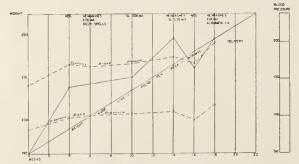
^{*}Obstetric Consultant, Alabama State Department of Health, Montgomery, Alabama.

emia of pregnancy early, whether alone or in combination with other toxemic signs and symptoms.

- 2. In the 38% exhibiting abnormal weight increase alone, I believe these patients did not develop further toxemic signs and symptoms because prompt antitoxemic treatment was initiated.
- 3. Sudden increase as well as excessive total gain in weight is significant.
- 4. Abnormal increase in weight is usually the first sign of toxemia.
- 5. Visible edema and urinary albumin are late manifestations of toxemia.
- 6. Limits of weight increase are one pound per week maximum or twenty to twenty-five pounds during the entire pregnancy.
- 7. Occult edema (non-visible because it is internal in the tissues) usually precedes visible edema (as in the ankles, hands and face). Occult edema produces an *increase* in weight. Thus, early toxemic treatment for abnormal weight increase may forestall visible edema and a parade of the later toxemic signs. In other words, diagnose and treat toxemias early by watching the patient's weight.

These conclusions are of additional value these war days when physicians are overworked and nurses take blood pressures and weights and do urinalyses both at the clinic

SAMPLE WEIGHT CHART in Toxemia of Pregnancy



Patient \$212. Note (1) abnormal weight gain in the four weeks following first clinic visit without other toxemic signs and symptoms except slight rise in systolic blood pressure; (2) at six weeks, appearance of edema, headaches, and dizzy spells; (3) lessening of symptoms as weight levelled off; (4) increase in symptoms with further gain in weight; (5) complete disappearance of symptoms with real loss of weight; and (6) reappearance of all symptoms plus urinary albumin (for the first time) with sudden gain in weight again.

and during home visits. Tamis and Clahr of New York have claimed that only 20% of defects found in the antepartum clinic may be determined by blood pressure and urinalysis alone. I say, add weight which does not even necessitate the presence of the physician, and I would double that figure and, at the same time, prevent toxemia by early treatment. Once a noteworthy blood pressure rise or abnormal urine is encountered, the results of treatment take an appreciable decline in effectiveness.

TREATMENT OF TOXEMIA

- 1. All patients in latter months of pregnancy (after fifth month)—
- a. Decrease carbohydrates and fat. Reduce salt (and soda bicarbonate). Eliminate pork.
- b. Increase protein (except pork). Add eggs, two to four a day, and cheese. Plenty of milk and vegetables. All these may be prepared individually or as a part of composite dishes in any form. Cake magnesia may be substituted for soda.
 - c. Full fluids.
 - d. Rest period, at least one hour a day.
- 2. If patient has sudden or excessive increase in weight—
- a. Same as 1, plus elimination of salt and bicarbonate: this means using no salted foods to start with, such as, salted meats, salted fats, etc., putting no salt into the food when cooking, and adding no salt afterwards.
- b. Step up eggs to four to six a day, and cheese to two pounds a week.
 - c. Force fluids.
- d. Provide adequate elimination—Epsom salts, 2 drams, twice daily.
- 3. If patient has additional toxemic signs and symptoms
 - a. Enforce 2 in detail.
 - b. Increase rest periods.
- c. Add sedation—phenobarbital gr. $\frac{1}{2}$, four times daily.

Part 1 of the above treatment schedule will usually be sufficient to control weight increase, even if purely dietary in origin. On the other hand, if it is a toxemic manifestation, the nephritic aspect is treated as well as any derangement of salt and protein metabolism and elimination.

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THE SURGICAL TREATMENT OF DYSMENORRHEA

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A consideration of the surgical treatment of dysmenorrhea, as with that of practically any benign condition, implies that all rational methods of conservative treatment have been tried and found unsuccessful. I am chiefly concerned in this discussion with primary dysmenorrhea. Obviously, dsymenorrhea which is secondary to gross pelvic pathology (endometriosis, uterine tumors, salpingo-oophoritis, etc.) will be adequately dealt with by appropriate measures taken to remove the diseased tissue.

It has been the woman with normal pelvic organs but intractable menstrual pain who has offered the real problem. It is in the study of such patients, after failure of medical management to provide relief, that the attention of many students of the problem has been directed to the sympathetic nervous system. Primary dysmenorrhea afflicts from two to seventy per cent of all women. the figure quoted depending upon how severe the menstrual cramps need be before being dignified by the technical term. Probably not more than two to three per cent of women have menstrual cramps of such disabling severity as to render them candidates for surgical relief.

The treatment of these unfortunate women has long offered to the medical profession a difficult problem. For the most part, its solution has been empiric, haphazard and unsatisfactory. The rationale upon which most forms of surgical treatment have been based is the theory of cervical stenosis advanced in 1832 by Mackintosh of Glasgow. This conception of the etiology has led to the almost universal adoption of dilatation of the cervical os as a treatment of primary dysmenorrhea. This form of treatment has been credited with as high as twenty-five to seventy-five per cent cures, but in the experience of many surgeons who employ a critical follow-up of their patients it has

been attended by lasting relief in a much smaller number. There is, of course, the occasional woman whose cervix has a pinpoint opening who is relieved by cervical dilatation. There is an occasional woman whose uterus presents an acute anteflexion who is relieved by the temporary insertion of a stem pessary. And there is the rare patient with secondary retroflexion of a previously normally placed uterus who will be relieved of dysmenorrhea by a properly done uterine suspension. It is our belief, however, that these are the exceptions, and that most cases of primary dysmenorrhea, as the term implies, are functional in nature and no operation on the uterus itself will result in any lasting benefit.

Up until the last few years, these procedures constituted practically the entire armamentarium with which surgeons were equipped to deal with this problem. In 1924 Cotte reported a substantial series of patients with primary dysmenorrhea who were completely and permanently relieved following a resection of the superior hypogastric plexus. His claims have been substantiated and his results duplicated by a large number of independent workers since the publication of his original studies.

These remarkable results stimulated a considerable volume of investigative work on the anatomy and physiology of the superior hypogastric plexus. This plexus of nerve fibers, which was given the popularly adopted but misleading name of "presacral nerve" by Latarget and Bonnet, presents itself on the anterior surface of the fourth lumbar vertebra as a continuation of the inferior mesenteric plexus as it courses down in front of the bifurcation of the aorta. It is joined by branches from the fourth lumbar ganglia which pass behind the iliac vessels. In thin individuals the plexus of nerve fibers can be seen through the posterior parietal peritoneum over the fifth lumbar

vertebra. In only about twenty per cent of the cases are the fibers joined together as a single nerve (the "presacral nerve"). The fibers constituting this plexus diverge at the promontory of the sacrum to form the right and left inferior hypogastric nerves which course along their respective inferior hypogastric vessels and distribute fibers along their branches to the pelvic viscera. It is well at this point to recall that the nerve supply of the ovaries is from the internal spermatic plexus, derived from the renal plexus (a fact which explains the loin pain which frequently accompanies ovarian disease).

The operation of resection of the superior hypogastric plexus is one which requires a meticulous technique as, to be successful, it must be complete. We employ a low midline incision extended to a point about an The patient is inch above the umbilicus. placed in deep Trendelenberg position, the intestines packed into the upper abdomen. The pelvic organs are carefully examined, and any pathology encountered is attended The sigmoid colon is drawn to the left and the posterior parietal peritoneum over the fifth lumbar vertebra opened between forceps, the opening being extended from the bifurcation of the aorta to the promontory of the sacrum. The peritoneum is stripped laterally until the ureter is exposed on each side, and the peritoneal edges held in retraction by silk sutures. Some of the nerve fibers frequently adhere to the peritoneum as it is elevated, and must, of course, be separated from it. In some patients the mesosigmoid is almost in the midline and must be rather extensively mobilized in order to expose the left ureter. Care must be taken to avoid damage to the superior hemorrhoidal vessels.

All of the tissue thus exposed lying in the interiliac trigone and between the ureters is removed down to the anterior longitudinal ligament over the fifth lumbar vertebra. It is important to remember at this point the fibers from the fourth lumbar ganglia which join the plexus after passing behind the iliac vessels. Ligatures are applied to all tissues as they are cut as there is a variable distribution of small blood vessels in this space. When the resection is complete there should be no tissue in the interiliac trigone between the posterior parietal peritoneum and the anterior longitudinal ligament. The poste-

rior parietal peritoneum is closed, the sigmoid colon replaced over the suture line, the appendix, if present, removed, and the abdomen closed without drainage.

Experimental studies carried out by Fontaine and Herrmann of Strasburg indicate that, aside from an interruption of sensory stimuli, no functional change is produced by resection of the superior hypogastric plexus. By faradic stimulation of the distal end of the cut nerves they were unable to produce any detectable changes in the pelvic viscera, while similar stimulation of the proximal ends resulted in evidences of reception of painful stimuli.

Clinically no interference with normal parturition, orgasm, menstruation, defecation or urination has resulted. On the contrary, such additional benefits have been reported as relief of dyspareunia, Hirschsprung's disease, atony of the bladder, the pain of inoperable pelvic malignancy and pruritis vulvae.

Up to the present we have employed this procedure only in the treatment of dysmen-crrhea, and have used it on twenty patients. We have selected only those patients for operation who were referred to us as failures of medical treatment. Several patients had had previous pelvic surgery elsewhere, such as uterine suspension or salpingectomy, without relief. Several had had one or more pregnancies with only temporary if any remission of menstrual pain.

All of our patients who have undergone resection of the superior hypogastric plexus for dysmenorrhea have expressed themselves on subsequent visits as being completely relieved of menstrual cramps.

In conclusion, it is our opinion, coinciding with that of Meigs, that failure of this form of treatment means one of two things: (1) The condition was not primary dysmenor1 hea, or (2) The resection of the superior hypogastric plexus was not completely carried out.

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Tetanus-When a patient, who has not been previously actively immunized, has received a wound which is of such a nature that it is likely to become infected with Clostridium tetani, it is necessary to resort to the production of a passive immunity by the injection of the serum containing the antitoxin. 1,500 units is the usual prophylactic dose, but if the wound is very extensive or several days old when first seen, a larger dose should be given. A dose as high as 20,000 units has been recommended.

While this artificially established passive immunity has wonderfully reduced the incidence of tetanus, it is nevertheless far from satisfactory. In the first place, it is impossible to decide whether or not it is necessary to give the antitoxin in many cases. Furthermore, the administration of anti-tetanic serum is often followed by reactions of sensitivity of varying severity. The choice between the dangers and discomforts of serum reactions and the possibility of tetanus following an apparently trivial wound, is at times a most

To prevent these reactions insofar as possible, previous to administering the serum, the patient should be tested for sensitivity, and if found sensitive, the serum should be given in broken doses. This, however, does not completely remove the possibility of reactions. In patients who are sensitive to horse serum, it may be possible to use

bovine serum.

Another disadvantage of passive immunity is that it only lasts for a week or ten days, so that in severe cases and secondary operations it is necessary to repeat the injection. Antitoxin does not rid the wound of tetanus bacilli. Still another disadvantage is the uncertainty as to the proper size of the dose to be given, especially in children; and, finally, the administration of antitoxin is comparatively expensive.

The establishment of an artificial active immunity by repeated injections of the toxoid overcomes to a great extent the short-comings of the passive immunity. Severe reactions are almost unheard of, occurring only once in every 10,000 to 50,000 cases. Furthermore, the active immunity is much more lasting and probably can be maintained indefinitely by the administration of "booster" doses of the toxoid given once a year. In horses the immunity conferred has lasted at least eight years. Finally, it is much less expensive in the long run than the passive immunity. -Lyons, Virginia M. Monthly, Feb. '44.

Prevention of Speech Disorders—The prevention of speech disorders should be given more attention by the pediatrician. We have taken speech for granted so long that it is difficult to consider it objectively. The pediatric history as well as the progress notes should contain a brief review of the speech efforts of the infant, including the age at which the babbling period began, the age when the infant imitated its own sounds, and the sounds of others, also the age at which the first words were spoken and the extent of the vocabulary. The history should also include the extent and degree of any articulatory disorder. A careful survey, based on the knowledge of normal speech development, may detect the beginning of a speech disorder. Authorities generally agree that these disorders yield quickly to intelligent treatment, especially when it is administered in the early years. The child should be taught by people who speak their own language, and speak it well. . . .

Parents should be encouraged to train the general co-ordinations and emotions and stimulate speech expression during the first two years of life. Vocal gymnastics are as important as physical gymnastics and should be encouraged, beginning with the babbling period; however, overstimulation of speech expression should be avoided. That children should be seen and not heard is pernicious doctrine. Speech suppression as "do not talk so much" and "do not talk so loud" is obviously intended for the benefit of the older members of the family. The learning of speech is composed just as definitely of motor output as of nerve intake and no child is justified in obeying this command. The training for language is a part of the general picture of mental hygiene; therefore, a good working knowledge of child guidance is essential. The physical, mental, and emotional development must be understood in order to obtain the best results in speech training.

The best preventive work can be done during the periods of acquiring a vocabulary and sentence building. The first play life is that of imitation and is encouraged by suitable toys. "Make believe" play follows, and during these stages in the play life of the child much can be done in the training for speech. It frequently happens that so much is being done in a routine way that speech is unnecessary, that is, every wish of the child is anticipated and speech expression is prevented. The child's intellectual and emotional life will develop in a normal and healthy way if talking is learned at an early age.

The child who is slow in developing speech is . . . also handicapped by not having the knowledge of speech with which to acquire intellectual processes.—Piper, Pennsylvania M. J., Feb. '44.

THE JOURNAL

of the

Medical Association of the State of Alabama

DOUGLAS L.	Editor-in-Chief CANNON Associate Editors	Montgomery
M. Y. DABNE' W. D. PARTLO FRED W. WIL B. F. AUSTIN	OW KERSON	Birmingham Tuscaloosa Montgomery Montgomery

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March 1944

THE 1944 ANNUAL MEETING

The Montgomery County Medical Society will be host to the 1944 annual meeting of the Association, scheduled to convene April 18, 19 and 20, with the Whitley Hotel as convention headquarters and place of all meetings-general and sectional. Normally, the Association, under its plan of rotating among the State's three largest cities, would have assembled in Mobile, the place of its birth in 1847, but in present conditions, with the hotels of the Port City taxed to capacity because of nearby airfields and war industries, and transportation difficulties, it seemed expedient to return to Montgomery, even though the 1942 meeting had been held in the Capital City.

Centrally located as it is, Montgomery and the program that has been assembled by the President of the Association should attract one of the largest gatherings in the Association's history even in the face of wartime deprivations. Surely in no other day has the profession needed rest and recreation more. The 1944 meeting in Montgomery offers such opportunities, and the physicians of the City hope their confreres throughout the State will generally avail themselves of them.

The first day's session will feature section meetings when timely subjects in medicine, surgery, obstetrics, gynecology, pediatrics, and diseases of the eye, ear, nose and throat will be discussed. While the section essayists will be largely members of the Association, guest speakers will make their contribution also.

The sessions on Wednesday will be general ones, as set forth in the program on ensuing pages of this number of the Journal. For the Jerome Cochran Lecture the Association will be honored by Tinsley R. Harrison of the Bowman Gray School of Medicine of Wake Forest College, son of Past President William Gross Harrison of Birmingham. His subject, "The Value and Limitations of Laboratory Tests in the Practice of Medicine," will hold an appeal for all who have the privilege of being in attendance.

Tulane will be represented by Neal Owens, Francis E. LeJeune and Randolph Lyons; and Vanderbilt by Cobb Pilcher, names well known to the profession in Alabama. The armed services will have Lt. Col. Walter O. Klingman of Maxwell Field for their spokesman.

Particular interest attaches to the address that will be delivered on Wednesday afternoon, April 19, by Dr. Morris Fishbein, Editor of the Journal of the American Medical Association on "Planning for Postwar Services." There has been no time in the history of American Medicine more appropriate than now for such a presentation. Dr. Fishbein will come prepared to acquaint the members of the Association with trends in federal legislation in which all should feel a vital interest.

In 1910 Dr. Wooten Moore Wilkerson presided over the Association as its President. In 1944 Dr. Fred Wooten Wilkerson, his son, will be in the chair. It is fitting that all whose practices will permit them to do so be present at this meeting as a mark of esteem for an honorable line, and in turn to be honored by a group of distinguished speakers who will have left "their homes, their firesides, and their personal interests, sacrificing their time willingly and cheerfully, in the pursuit of measures to elevate their science" in order to counsel "together for means to interpose between suffering humanity and the ills that threaten it."

The Montgomery County Medical Society extends a hearty invitation to the physicians of Alabama to be its guests April 18, 19 and 20

THE PRESIDENT'S RECOMMENDATIONS

In compliance with the wish of the Association, expressed at its 1943 meeting, that recommendations to be made by the President be published each year in the March Journal, recommendations to be incorporated by President Fred W. Wilkerson in his message to the Association on April 18, 1944 are set forth as follows:

- (1) That no member of the State Board of Censors be elected for more than two consecutive terms of five years each.
- (2) That we use our efforts as an association to have the law about coroners changed and try to have enacted a law requiring medical examiners. This could be done in the larger counties even if not in the smaller ones. The present system is grossly unsatisfactory and inefficient, and in many counties I think the coroners are not even physicians.
- (3) That a Postwar Planning Commission be appointed to work with the State Board of Health, the American Medical Association, and other agencies, to deal not only with the rehabilitation of physicians returning from the War but with all other factors concerned in postwar medical affairs.

ACTION IN TIME MEANS LIFE

It has been stated that cancer is the most curable of the fatal diseases. That is an interesting statement and is not a contradiction of itself, as it might at first seem to be. Its justification lies in the nature of cancer itself—for cancer in its early stage is localized, limited, and capable of being completely removed or destroyed.

Cancer in its late stages is as sinister as a disease can be. It is widespread and has invaded surrounding tissues with ill-defined irregular strands of abnormal growth. If untreated and unchecked, cancer is uniformly and universally fatal. It is this grim fact that brings out the contrast between early and late stages of the disease.

The picture, however, is far from being a gloomy one. Each year more and more people are learning that "time" is the key word in cancer control. Each year thousands more people are coming to their doctor with

Contributed by C. C. Little, Sc. D., Managing Director of the American Society for the Control of Cancer.

very early signs and symptoms that may mean cancer. As a result they are being treated in time to prevent cancer or to cure it if it has started. The value of annual or semi-annual physical examination is becoming clearer to an ever-increasing number of men and women. The Women's Field Army of the American Society for the Control of Cancer is growing yearly at a faster rate. Today three hundred thousand women throughout the United States are enlisted in the fight against cancer, the fight to bring knowledge and confidence into every home in the country.

Cancer Prevention Clinics, where perfectly well persons report periodically for a physical check up, have been established in some cities and are doing excellent work. The idea will spread and grow. Lives will be saved, suffering avoided. Death will be cheated. Americans of the future will visit such clinics as a matter of routine.

It is well when the world is darkened by the fierce storm clouds of war to remember that there are men and women working quietly but tirelessly to allay fear and to bring peace and hope to hundreds of thousands of people—to your friends and mine, to your family and mine, perhaps to you and me ourselves.

For thirty years the American Society for the Control of Cancer at 350 Madison Avenue, New York City, has been the leader in this campaign. It will gladly provide, without charge, information which you may desire. It asks you to enlist in the fight against cancer for your own sake as well as for those whom you may be able to help. Do not delay. Remember that in cancer "action in time means life."

TREATMENT OF ANKLE SPRAIN

"Ankle sprains may cause much disability, and often do, in military, industrial and other activities. Observations on various types of treatment in over 500 cases closely studied are presented. More than 200 of the patients were treated with injection of procaine hydrochloride solution and over 200 were strapped with adhesive tape. Sixty-eight received either no treatment or cold and hot packs or an elastic bandage for support."

The above is the opening paragraph of the

study which McMaster¹ made of this subject. The author states that roentgenograms were made in practically all cases and that daily and periodic return for checkup was required. And he believes that "injection with 2 per cent procaine hydrochloride soluton into the injured ligaments followed by normal activity gave uniformly the best results. These patients, following complete elimination of pain and tenderness by injection, continued immediate use of the part, avoiding only especially strenuous activity as hard running or jumping."

And we are further told that "invariably patients whether with moderate or severe sprain, and almost irrespective of the type of treatment given, who were immediately sent back to routine activity and use of the part did much better than those who were put at rest for a few days with limited or no use of the part. The ones who were inactivated for one or more days by either being put to bed for cold and then hot applications or having ankles taped and cautioned to bear limited or no weight on the leg with the aid of crutches or cane were often disabled for periods of a few days to two or three weeks. One patient was disabled eight weeks. The ankles in the latter cases usually remained swollen, tender, stiff and painful, and only gradually did these conditions subside."

"The patients who either received no local treatment or were given only an elastic bandage for support but were returned immediately to duty to use and move the part had remarkably little disability, which, if any, lasted not more than a few days. This was also true for the majority of patients who were only taped and sent back to duty immediately."

McMaster, who is connected with the Orthopedic Department of the U. S. Marine Corps Base Dispensary at San Diego, had the chance to compare various methods of treating sprained ankles and he made the most of his opportunity. And his conclusions and observations are both interesting and instructive. Unfortunately most of his patients were young military men in far better physical condition and under much closer observation and control than are ci-

vilians. And, unfortunately again, many more or less isolated civilian practitioners are not sufficiently trained in surgical technic to attempt the intraligamentous injection of procaine.

The injection of local anesthetics in fractures and sprains has been done for some years now and it is probable that their use in this field is increasing. And both fractures and sprains are in general kept immobilized for a much shorter time than was formerly the case.

It will take time to determine how applicable the procedures advocated by Mc-Master are to the general public, but his report is a fine contribution toward the better handling of that most ubiquitous injury, the sprained ankle.

COURSE IN MALARIA DIAGNOSIS BY LAB-ORATORY METHODS

A course in the diagnosis of malarial infection based on microscopic examination of thick and thin blood films will be given in the Bureau of Laboratories of the State Department of Health March 27 to April 8, inclusive. Miss Aimee Wilcox of the U. S. Public Health Service will be the instructor and an invitation is extended to any interested laboratory workers to attend. There is no charge for the course but arrangements should be made through the Director of Laboratories so that the necessary space may be reserved.

No Sensitivity to Ration Tokens-On February 27 the Office of Price Administration issues its new ration tokens, made of vulcanized fiber. Some publicity just released, cleared and issued through facilities of the Office of War Information informs us that these tokens are "harmless to the handler." The U.S. Public Health Service has been making patch tests, including investigations of the raw materials of which the tokens are made and of the finished tokens, for more than five months; "the tokens failed to irritate or sensitize the skin of any of those on whom they were tried." Perhaps people are less sensitive to war measures than they were at the beginning. Furthermore, the manufacturers of the token materials have advised the OPA that "there has been no case in which an employee suffered an unfavorable reaction." . . . Just how sensitive the public is going to be to the new ration tokens from a psychologic point of view, time will tell. —J. A. M. A. (Feb. 26) '44.

^{1.} McMaster, Paul E.: Treatment of Ankle Sprain: Observations in More Than 500 Cases, J. A. M. A. 122: 659 (July) 1943.

PROGRAM OF THE ANNUAL SESSION MONTGOMERY

APRIL 18, 19, 20, 1944

THE WHITLEY HOTEL

GENERAL INFORMATION

All general sessions of the Association will be in the Ballroom of the Whitley Hotel, convention headquarters.

Section meetings will be held at the places in-

dicated in the program.

The maximum time consumed by essayists must not exceed fifteen minutes. This time limit, however, does not apply to invited guests. It is suggested that the salient features of papers be presented within this time, reserving the complete elaboration for publication in the Journal. Discussions will be limited to 4 minutes for each speaker.

All papers read before the Association must be deposited with the Secretary when read; other-

wise, they will not be published.

During the discussion of papers, the speaker will please walk forward to the platform and announce his name and address distinctly.

Papers will be called in the order in which they appear on the program. Should a reader be absent when called, his paper will be passed, and called again when the program is concluded.

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The Montgomery County Medical Society

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PROGRAM

First Day, Tuesday, April 18

Morning Session

The Ballroom The Whitley Hotel

- 1. Call to Order at 10:00 A. M. by the President— Fred W. Wilkerson, Montgomery.
- 2. Invocation-

Rev. E. R. Neff, Rector, St. John's Episcopal Church, Montgomery.

- 3. Addresses of Welcome—

 Hon. C. B. Brown, Mayor of Montgomery.

 Frank, W. Piggs, President, Montgomery.
 - Frank W. Riggs, President, Montgomery County Medical Society.
- Presentation of the President—
 B. W. McNease, Senior Vice-President, Fayette.
- 5. Message of the President—
 Fred W. Wilkerson, Montgomery.
- 6. Reports of the Vice-Presidents-
 - (1) B. W. McNease, Fayette.
 - (2) J. Paul Jones, Camden.
 - (3) J. O. Morgan, Gadsden.
 - (4) W. Hill McCaslan, Union Springs.
- Report of the Secretary-Treasurer— Douglas L. Cannon, Montgomery.
- 8. Report of the Committee of Publication—Douglas L. Cannon, Montgomery.
- 9. Reports of Standing Committees—
 (1) Public Relations—
 - B. F. Austin, Chairman.

- (2) Mental Hygiene— Frank A. Kay, Chairman.
- (3) Maternal and Infant Welfare— A. E. Thomas, Chairman.
- (4) Cancer Control—J. P. Chapman, Chairman.(a) Women's Field Army.
- (5) Prevention of Blindness and Deafness— B. F. Jackson, Chairman.
- (6) Postgraduate Study—
 Ralph McBurney, Chairman.
- (7) Accidents and Industrial Hygiene— C. H. Ford, Chairman.
- (8) Four-Year Medical School— W. D. Partlow, Chairman.
- (9) Archives and History— M. Y. Dabney, Chairman.
- (10) Physician-Druggist Relationships— R. E. Cloud, Chairman.

Afternoon Session Tuesday, April 18

2:00 P. M.

SECTION ON SURGERY

The Ballroom The Whitley Hotel

- T. Brannon Hubbard, Montgomery, Chairman Philip K. Burwell, Montgomery, Secretary
- 1. Paper: Bronchiectasis.
 J. OTIS LISENBY,
 Atmore.

Discussion: Chas. J. Donald, Jr., Birmingham.

2. Paper: Intestinal Obstruction. EARLE F. MOODY, Dothan.

Discussion: Earle Drennen, Birmingham.

3. Paper: Urinary Complications Following Sulfonamide Therapy. KENNETH LUCKIE, Selma.

Discussion: J. Henry Goode, Tuscaloosa.

 Paper: Total vs Subtotal Hysterectomy— Lantern Slides.
 J. O. MORGAN,

Gadsden.

Discussion: Claud Johnson, Montgomery.

 Paper: What the Surgeon Should Know of Radiology in Treating Malignancies.
 P. LEVI,

Anniston.

Discussion: Karl F. Kesmodel, Birmingham.

Afternoon Session Tuesday, April 18 2:00 P. M.

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SECTION ON PEDIATRICS

The Civic Room
The Whitley Hotel
H. P. Dawson, Chairman
Alice Hill Pye, Secretary

 Paper: Fibrocystic Disease of the Pancreas. W. A. DANIEL, Montgomery. Paper: Pancreatic Disease in Infancy and Children. JEROME MEYER,

Birmingham.

Discussion on papers 1 and 2 will be opened by Hughes Kennedy, Birmingham.

3. Paper: The Treatment of Chronic Intestinal Indigestion with Vitamin B Complex and Liver Extract.

J. H. BAUMHAUER, Mobile.

Discussion: A. C. Gipson, Gadsden.

4. Paper: Breast Feeding. RUTH R. BERREY, Birmingham.

Discussion: N. B. Cannady, Dothan.

Evening Session
Tuesday, April 18

7:30 P. M.

SECTION ON MEDICINE

The Ballroom
The Whitley Hotel

- F. C. Stevenson, ChairmanD. J. Long, Secretary
- Paper: The Nervous Patient. G. O. SEGREST, Mobile.

Discussion: F. A. Kay, Tuscaloosa.

2. Paper: The Spastic Colon. W. LINDSAY MILLER, Gadsden.

Discussion: Norman Van Wezel, Montgomery.

 Paper: The Significance of the Wide S Wave Pattern of the Electrocardiogram. JOHN E. WALKER, Columbus, Ga.

Discussion: J. S. McLester, Birmingham.

4. Paper: The Value of the Preemployment Examination in an Industrial Health Program. PAUL W. AUSTON, West Point, Ga.

Discussion: Cabot Lull, Birmingham.

5. Paper: Chronic Bronchitis in the Aged.
J. F. ALISON,
Selma.

Discussion: Kellie Joseph, Birmingham.

Evening Session Tuesday, April 18

7:30 P. M.

SECTION ON EYE, EAR, NOSE AND THROAT

The Civic Room The Whitley Hotel

B. F. Jackson, Chairman Bruce Holding, Secretary

 Paper: Some Phases of Ocular Pathology— Illustrated.
 D. L. HAGOOD, Montgomery. Paper: The Management of the Complications of Intraocular Surgery. HERMAN W. FRANK, Gadsden.

Paper: Ocular Therapy for the General Practitioner.

E. R. NODINE,
Montgomery.
Discussion of papers 1, 2 and 3 will be opened

Discussion of papers 1, 2 and 3 will be opened by W. J. Robbins, Florence.

4. Paper: Treatment of Chronic Suppurative Otitis Media—Medical or Surgical? WYATT ROBERTS,

Birmingham.

Discussion: Harvey Searcy, Tuscaloosa.

* * *

Morning Session Wednesday, April 19

9:00 A. M.

GENERAL

The Ballroom The Whitley Hotel

President Wilkerson, Presiding

 Paper: Some Recent Trends in the Advancement of Plastic Surgery.

NEAL OWENS,

Assistant Professor of Clinical Surgery (Plastic), Tulane University of Louisiana School of Medicine, New Orleans.

2 Paper: The Prognosis and Treatment of Cancer of the Larynx.

F. E. LE JEUNE,

Professor of Otolaryngology,

University of Louisiana School of Medicine, New Orleans.

3. Paper: The Schemm Treatment of Chronic Heart Failure with Edema—With Report of Illustrative Case.

RANDOLPH LYONS,

Professor of Clinical Medicine,

Tulane University of Louisiana School of Medicine.

New Orleans.

4. The Jerome Cochran Lecture

The Value and Limitations of Laboratory Tests in the Practice of Medicine.

TINSLEY R. HARRISON,

Bowman Gray School of Medicine of Wake Forest College,

Winston-Salem, N. C.

Announcement of vacancies in the College of Counsellors.

List of vacancies known to exist when the program went to press appears at the end of the program.

Afternoon Session Wednesday, April 19 2:00 P. M.

GENERAL

The Ballroom The Whitley Hotel

 Paper: Caudal Analgesia. OTIS L. JORDAN, Tuscaloosa. 2. Paper: Psychiatric Problems in Flying Personnel.

LT. COL. WALTER O. KLINGMAN, Medical Corps, Army Air Forces,

Maxwell Field, Alabama.

 Address: Planning for Postwar Medical Services.
 MORRIS FISHBEIN, Editor,
 Journal of the American Medical Association,

Chicago.
4. Paper: The Present Status of Sterility
Studies in Women.

MARYE Y. DABNEY, Birmingham.

· Evening Session

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Wednesday, April 19

8:00 P. M.

GENERAL

The Ballroom
The Whitley Hotel

- Paper: Remarks on the Nausea and Vomiting of Pregnancy. JAS. R. GARBER, Birmingham.
- Paper: The Treatment of Craniocerebral Wounds.
 COBB PILCHER,
 Associate Professor of Surgery,
 Vanderbilt University School of Medicine,
 Nashville, Tenn.
- 3. Paper: Some Common Pyogenic Infections of the Skin.
 F. E. STOCKTON,
 Birmingham.

Last Day, Thursday, April 20

* * *

8:30 A. M.

The Ballroom
The Whitley Hotel

Business meeting of the Association sitting as the Board of Health of the State of Alabama.

- (1) Report of the Board of Censors;
- (2) Revision of the Rolls:
- (3) Election and Installation of Officers.

Adjournment

Vacancies in the College of Counsellors

As of April 1, 1944, the following vacancies present in the College of Counsellors for the reasons set forth:

1st. Congressional District—1: W. A. Stallworth's first term of seven years has expired.

2nd. Congressional District—4: The first terms of seven years of L. V. Stabler and C. K. Weil have expired. M. H. Hagood and T. B. Hubbard are to be elevated to Life Counsellors.

4th. Congressional District—1: C. W. C. Moore's first term of seven years has expired.

5th. Congressional District—2: J. J. Walls is to be elevated to Life Counsellor. W. D. Wood is dead.

6th. Congressional District—1: C. T. Acker's first term of seven years has expired.

7th. Congressional District—2: E. T. Brown's first term of seven years has expired. Robert L.

Hill of Winfield is to be elevated to Life Counsellor.

8th. Congressional District—2: The first terms of seven years of J. O. Belue and C. A. Grote have expired.

9th. Congressional District—2: R. M. Pool has changed his place of residence. E. M. Mason is to be elevated to Life Counsellor.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

Victory Over Infantile Paralysis

When young Martin Umanoff left his New York home more than a year ago to enter his country's armed services, he, like nearly all other Americans, probably was thinking about the war and the part he would be called upon to play in it. Such thoughts must have occupied an especially prominent place in his mind when his train pulled into Montgomery's Union Station and he found himself about to report for training at Maxwell Field. For this youth from the Empire State had in the meantime become Aviation Cadet Martin Umanoff.

But no doubt Aviation Cadet Umanoff was also thinking about another war of a more personal nature in which he had been engaged, a war in which he had not only fought well but in which he had come out victorious, as was fully attested by the fact that he was now an aviation cadet. That earlier war, carried on for the most part in the loneliness of a sick bed and marked by slow gains against his arch enemy, was a war against infantile paralysis, or poliomyelitis.

Young Umanoff carried on his warfare against that disease many years before he was old enough to qualify for the Army Air Forces. For that struggle came when he was only two years of age. By the use of massage treatments, he gradually recovered the use of his limbs, but his apparently complete recovery required ten years. When his limbs finally returned to something like normal, he had to learn to walk all over again, like a young baby.

When he entered training at Maxwell Field, he described his legs as "better than 100 per cent perfect." A newspaper writer

said of him soon after he arrived: "He's one of Uncle Sam's hardest-training cadets in the pre-flight school for pilots undergoing a rigorous toughening program for which only the physically perfect are accepted."

Fortunately, Martin Umanoff is only one of many persons of all ages and conditions of life who have won battles against infantile paralysis. A few, like the President of the United States, have risen to national and international renown after doing so. Others enjoy reputations largely confined to their own states. Still others, constituting the overwhelming majority, are entire strangers to fame but carry on useful activities and have won the esteem of their friends and neighbors. All offer living, inspiring proof of the contention of poliomyelitis experts that having this disease is not by any means a life sentence to invalidism and economic dependency.

Another member of this inspiring fraternity of former fighters against infantile paralysis is Wally McDiarmid, although, unfortunately, Wally's attack did not leave him "better than 100 per cent perfect." In fact he is still a cripple, but he appears to be one of the most successful young men of his age in his home state of Illinois and asks no favors because of his handicap.

Wally MacDiarmid was 20 when he was attacked by infantile paralysis in August 1940. His attack was a serious one too, as his legs, back, left arm, abdomen, right hand and both hips were paralyzed. Three weeks in the hospital brought a measure of improvement, and he was able to use the paralyzed hand and arm. Then he spent about six months practically motionless in bed at home. Afterwards, early in March 1941, he became a patient at the famous Warm Springs Foundation in Georgia and remained there another half year. During that time

he continued his progress toward recovery and, by the time he left, was able to move about the buildings and grounds with the aid of crutches and a pair of leg braces. After his return to his home in Peoria he received a wheelchair from the local chapter of the National Foundation for Infantile Paralysis, and with this he was able to continue his studies at Bradley College. The State Board of Vocational Rehabilitation furnished the books he needed and paid for his tuition.

He was graduated with honors in political science, sociology and business administration in April 1943. During his college career he was elected president of his class, served as feature editor of one of the college publications and, as chairman of a committee in charge of a War Bond-selling campaign, was instrumental in the sale of those governmental securities having a total value in excess of \$165,000.

During his senior year radio listeners within range of Peoria's Station WMBD began to hear a cheery, friendly voice announcing programs sponsored by the college. They liked those programs, they liked that voice, and the owner of the voice liked his work as an announcer immensely. The president of the broadcasting company recognized his talent and offered him a job as a regular station announcer. When last heard from, this valiant soldier in the war against infantile paralysis was still on the job and making good.

But of course all the successful fighters against infantile paralysis have not been boys and men. There is also an imposing array of girls and young women, not to mention older women, who have fought their way back to usefulness and, in some instances, outstanding success. A case in point is that of Grace McDonald. Those who have seen her dance in motion pictures would never think of her as a former victim of infantile paralysis. But we have it on the word of the famed Hollywood commentator, Jimmie Fidler, that she is. He wrote of her as follows in his syndicated column:

"At 14, Grace McDonald, an infantile paralysis victim, was in a wheel chair, unable to move her legs. Doctors said her case was hopeless, pronounced her a cripple for life. She would undoubtedly be in that wheel chair today if the blood hadn't pounded so madly through her veins every time she saw her brother Ray prac-

tice the tap routines that were to lead him to fame. Grace tried to tap in unison, fought with all her will to make her dead feet beat the tempo. Slowly, the leaden legs began to respond. Before the year was out, she was so improved that she took her first few, tottering steps."

There was a time, not so many years ago, when the cases that have been mentioned were in the nature of rarities, or medical curiosities. Now, fortunately, they are almost commonplace. Few communities do not contain from one to a considerable number of persons who have heard a poliomyelitis diagnosis, have fought a good fight, and have won through to regained health and usefulness.

Perhaps the greatest single factor in this change has been the work of the National Foundation for Infantile Paralysis and its local chapters dotting the land. Because of the interest which President Roosevelt has taken in this disease—a result of his having been among its victims—the American peohave become poliomyelitis-conscious. Much more important, they have contributed generously to the support of the agencies devoted to its study and control.

Although some interested persons make their contributions on a year-round basis most of us limit our financial support to the annual fund-raising campaign in January, culminating on January 31, the President's birthday. For several years birthday balls and dances were held throughout the country at that time for the purpose of raising funds to be used in the infantile paralysis campaign, but more recently the fund-raising drive has taken other forms. This year people were asked to contribute dimes—as many of them as they would and could—for the support of this work. Half of the money raised in that way remains in the communities where it was contributed, for use in aiding local poliomyelitis victims, and the other half has been sent to national headquarters in New York to finance research work and other Foundation activities.

As much as these worthy organizations have done and will continue to do, the protection of the individual from this disease still remains largely an individual responsibility. There is a particular need for parents to see that their children avoid exposure as far as possible and receive prompt and proper attention as soon as the first symptoms appear.

Although much remains to be learned about this great crippler, it is known that infantile paralysis is caused by a very small living organism so minute that it cannot be seen under the most powerful microscope and readily passes through the finest filters. Small as the organisms are, they cling to life with a tenacity that is most surprising and survive conditions that quickly destroy many types of bacteria. They do not even succumb to drying or to exposure to a number of powerful antiseptics and germicides. Freezing and subfreezing temperatures appear to have no effect upon them. They continue to live outside the body, although they are incapable of reproduction or selfmotion under these conditions.

The extremely poisonous organisms are discharged from the body of an infantile paralysis patient or carrier in the discharges from the nose, throat and particularly the bowels. Thus anyone in close physical association with such a person may easily receive them into his or her body when the other person coughs, sneezes or even talks. Solid or liquid foods that have been handled by someone with unclean hands or have been tasted by a person having these organisms may become a potent agency of transmission. Although insects in general are not believed to play a part in their spread, flies and certain forms of vermin do so. Parents should be careful to see that their children put nothing into their mouths, from a toy to an article of food, which might have been soiled from the body discharges of anyone else.

The symptoms of poliomyelitis vary widely in different cases. Some are so mild that they are likely to be overlooked entirely or mistaken for the symptoms of some minor illness. Others are unmistakable. Sore throat, nausea, with vomiting, and a head cold are the most usual early-stage indications that infantile paralysis is present. These symptoms are often accompanied by diarrhea or its exact opposite, constipation. There may be pain or distress in the upper abdominal region. There is often a marked and unexplainable loss of appetite. Fatigue and lack of interest in work or play are often observable, as is also a tendency toward nervousness and irritability. Profuse perspiration and flushing of the face may be among the warning signals. Paralysis appears in the more severe cases. Usually it is not present at the onset of the disease but develops as it progresses. Naturally, it is the desire of the parent and doctor to begin treatment, if possible, before paralysis sets in. To that end, no time should be lost in obtaining medical advice and treatment whenever there is even the slightest reason to suspect that infantile paralysis is present. Nor should parents be lulled into a false sense of security by the fact that the disease is non-epidemic. Remember that a single infantile paralysis patient or carrier is a virus incubator potentially capable of giving it to dozens of persons.

Alabama is no stranger to poliomyelitis in epidemic form. Our people remember, with a shudder, the frightening outbreaks of 1936 and 1941. They also remember the epidemics in various parts of the country last year, epidemics which, fortunately, did not invade this State. To prevent a recurrence, as far as possible, of such conditions, here or elsewhere, let us maintain an alert awareness of the serious potentialities of the disease. If the American people as a whole will do this in the interest of poliomyelitis control, we may look forward confidently to the time when this dread disease will be effectively conquered.

BUREAU OF PREVENTABLE DISEASES D. G. Gill, M. D., Director

COMMUNICABLE DISEASES IN 1943

The number of cases of communicable diseases reported in Alabama during 1943 as compared to the number reported in 1942 and the median of the nine-year period, 1934-1942, is shown in the following table:

Disease	1943	1942	Median 1934-42
Typhoid fever	119	147	317
Typhus fever		380	341
Malaria	0000	4369	6473
Undulant fever		70	54
Smallpox	1.0	10	26
Measles	1000	3741	4529
Scarlet fever		1134	879
Whooping cough		1134	1664
Diphtheria		606	965
Influenza		7359	14535
Mumps	7.400	1569	1074
Poliomyelitis	0.0	72	72
Encephalitis		10	25
Chickenpox	1005	1365	1370
Tetanus	10	35	50
Tuberculosis	0004	2795	2942
Tularemia		9	15
Pellagra	00	117	294
Meningitis	000	83	84
Pneumonia	4000	3535	4075
Syphilis	10000	19272	16385
Chancroid	241	328	100
Gonorrhea	7192	7328	3773
Ophthalmia	100	20	15

The usual fluctuation of cases is apparent but the overall picture was quite good. There were no major epidemics recorded and several diseases were much below expectancy. Typhoid fever set another low record, continuing the downward trend of recent years, while diphtheria almost equalled the low record set in 1940.

Two diseases showed marked increases, namely, typhus fever and meningitis. The former disease has become a considerable problem in the southern part of the State and it is apparent that extensive rat-control measures are necessary to combat it. Meningitis has long been associated with war and the congregation of men in army camps. The year 1943 was no exception and much of the increased incidence was due to cases in military establishments.

The venereal disease program continued to uncover previously unknown infections and the reported cases are impressive.

PREVALENCE OF, COMMUNICABLE DIS-EASES IN ALABAMA

1943

			E. E.*
	Dec.	Jan.	Jan.
	1943	1944	1944
m11-1	4	4	
Typhoid	4	4	8
Typhus	71	42	20
Malaria		47	75
Smallpox	2	2	2
Measles		1251	218
Scarlet fever	61	61	101
Whooping cough	39	50	121
DiphtheriaInfluenza	47	31	68
Influenza	3035	17936	1676
Mumps	64	133	116
Poliomyelitis	1	0	3
Encephalitis	0	1	1
Chickenpox		197	307
Tetanus	4	0	3
Tuberculosis	212	212	200
Pellagra		2	10
Meningitis		30	10
Pneumonia	437	927	684
Trachoma		021	004
Tularemia	3	1	
Undulant fever	3 7	$\frac{1}{2}$	$\frac{2}{2}$
		0	0
	0	0	
Amebic dysentery	150		0
Cancer		181	0
Rabies—Human cases	0	0	0
Positive animal heads	9	21	

As reported by physicians and including deaths not re-

ported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

ANNUAL MEETING WHITLEY HOTEL MONTGOMERY APRIL 18, 19, 20

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

STILLBIRTHS ARE STILL TOO FREQUENT

Recent statistics indicate that for every 100 babies born alive there are three born dead. Official records show approximately 75,000 stillbirths a year in the United States. These and other significant figures are released in the Statistical Bulletin of the Metropolitan Life Insurance Company. This number of stillbirths is greater than the total deaths from tuberculosis in the general population. Aside from this waste of life is the fact that mothers of babies born dead show a higher mortality rate than mothers who give birth to live babies.

A majority of the approximately 17,000,-000 women now employed in industry are in the child-bearing age, and this will focus attention upon conditions that are responsible for stillbirths. The job they are doing with the hours for rest and provisions for the

pregnant women are important.

Frequency of stillbirths is least in the 20-29 year old group, and fortunately this is the period in which child bearing is concentrated as three-fifths of all mothers are within this span of ten years. Among women over 45 years old who are having their first baby there are thirteen stillbirths for every 100 live births. The frequency also seems high among women who have already had a large number of children. These biologic factors may be beyond our control but much can be done in other ways to prevent stillbirths.

The ratio of stillbirths to live births has been reduced by nearly one-fifth in the past ten years. Our situation in Alabama is comparable to the national situation. In 1930 the Alabama stillbirth rate was 49.9 per 1000 live births; in 1940 it was 38.4, and in 1941 it was 36.0. The rate of 33.5 for 1942 is much higher than the rate of 28.2 for the United States as a whole. In fact, Alabama holds a very unenviable position in the list of states, as there are only six that had a higher stillbirth rate in 1941. There is no doubt that our large Negro population has much to do with this record. Still, it is too high.

In any program for life conservation the prevention of stillbirths should have careful consideration.

There should be adequate treatment of syphilitic mothers early in pregnancy as it is

estimated that three-fifths of these pregnancies end in stillbirths. With 194 venereal disease clinics in Alabama, several in each county, this treatment should be available to all. A serologic test for syphilis should be routine in all pregnant women as part of good maternity care.

There should be prenatal advice and supervision early in pregnancy. Expectant mothers should be instructed and encouraged to see their physician or attend a maternity clinic as soon as they suspect pregnancy.

We have 121 maternity clinics in 51 counties of the State, and in 1942-43 more than 46,000 visits were made to these clinics for service and care. It was definitely demonstrated that among the clinic attendants the stillbirth rate, as well as the maternal and neonatal death rates, was lower than among the non-clinic attendants. In every category and from every angle studied, the value of these maternity clinics was shown. At present, there is a tendency to discontinue some of these clinics. This is due to non-attendance, probably on account of transportation difficulties. Other clinics are closed because the clinicians are too overburdened with work to spare the necessary time to conduct them. Every effort should be made to maintain interest in these services.

There should be a program for antepartum care for women in industry. It is important that the job she is doing not endanger the safe outcome of her pregnancy. Time off should be allowed for her to visit her physician or the clinic for prenatal advice. She should be instructed and encouraged to seek medical care as soon as she thinks she is pregnant.

From the Office of War Information we learn that during the first two years of war nearly three times as many babies were born dead in the United States as were the total casualties in the armed forces, including killed, wounded, missing and prisoners. The figures given are 130,000 casualties and more than 300,000 babies born dead.

A final comment from the Bulletin is: "While a number of stillbirths result from biologic factors, such as the aging of the mother, there is no doubt that many arise out of causes amenable to control, and it should be possible to reduce the frequency of stillbirths by expanding and coordinating prenatal services."

BUREAU OF SANITATION T. H. Milford, M. S. in S. E., Director

EVALUATION OF RAT CONTROL MEASURES

Contributed by
Andrew J. Perolio
Senior Scientific Assistant

For many years rat control studies have engaged in the attention of individuals, corporations and governments. As a result there are numerous preparations and devices on the market for rat destruction. State and national rat control laws have been passed. There is no doubt that extermination programs, individual efforts and antirat legislation have been important factors in keeping down the surplus, but all efforts so far have failed to reduce the total number of rats materially. More attention has been directed by health authorities toward rat control, especially in the southern part of the United States, since Havens, Maxcy, Rumreich, Badger and Dyer definitely proved that the rat is the host for endemic typhus fever and that its ectoparasites are the agents that transmit it to human beings.

The U. S. Public Health Service, the U. S. Department of Agriculture, the U. S. Bureau of Biological Survey and state departments of health have stressed rat proofing as a necessary economic measure, as well as one for the protection of public health.

Architects and builders do not seem to realize the importance of rat exclusion and the elimination of structural harborages in their plans and specifications. Rat-proof construction included in the cost of new buildings is not expensive while rat proofing of old structures is oftentimes almost impossible or the cost prohibitive. Many cities are adding rat proofing clauses to their building ordinances; therefore, builders should compare the cost of rat proofing during construction with the probable later cost should compulsory rat proofing require it. All authorities agree that rat proofing is the best means of rat control.

Vent stoppage or rat stoppage is a modified method of rat proofing and was evolved by Boston of the Georgia State Department of Health. It differed from rat proofing in that only the exterior walls were rat proofed from the ground upward for 24 inches, and a block or group of adjoining buildings considered the unit instead of the individual

building. Inside structural harborages were not taken into consideration and no attempt was made to prevent rats from traveling from one structure to another in the ventstopped unit. Extermination of rats in these structures was advocated after completion of vent stoppage.

Due to the economic aspect of this procedure, the U.S. Public Health Service became interested, and Medical Director C. L. Williams was put in charge of a study program jointly with the Georgia State Department of Health. The study lasted for about two years. The U.S. Public Health Service found that merely closing vents and other openings from the ground upward for 24 inches was not effective. As in rat proofing it was found necessary that foundation walls should be deep enough to prevent burrowing, and, in areas where the Rattus Rattus Rattus and Rattus Rattus Alexandrinus are present, that roofs, louvers, vents, cables, wires, etc., entering upper stories should be made rat proof as well as those near the ground. Dr. C. R. Eskey, Medical Director, Typhus Control Unit, U. S. Public Health Service, who succeeded Dr. Williams as Typhus Control Director, has gone even further in following regular rat proofing methods. He not only advocates curtain walls where walls are not deep enough but includes removal of structural harborages and metal flashing where there is evidence of invasion inside of the structures to prevent rats traveling from one building to another.

Vent stoppage or rat stoppage as originally carried out was far less expensive than rat proofing but was also far less effective as a control measure.

Trapping rats is effective as a means of suppression. Careful attention to detail is necessary as success depends largely upon the skill and resourcefulness with which traps are handled and in the selection of proper baits and in the training of personnel.

The most effectiive and economic means of destroying rats has been by specific poisons: arsenic, phosphorus, strychnine, barium carbonate and red squill. Red squill is recommended to replace other poisons in mass extermination programs due to the fact that it is fatal to rodents only. It is practically harmless to human beings and domestic animals.

In the past, mass poisoning has not met with public favor due to the fear of accidental poisoning of children and domestic animals. Lack of visible evidence of rat destruction tended to discredit this form of extermination.

Fumigation is a process of confining a toxic vapor in an enclosed space for the destruction of rodent and insect life. Hydrocyanic acid gas is the most effective agent for the destruction of rats but is one of the most dangerous if not properly handled. If a structure can be made practically air tight, all rats as well as their ectoparasites can be killed by proper application in strong concentration.

Studies have been made of the effectiveness of various poisons, gases and traps. Every method of rat exclusion or extermination that appeared of value and seemed feasible has been tried out. From our experience the value of each of the following procedures as a typhus fever control measure is as follows:

1. Rat Proofing: Complete rat proofing of all food-handling establishments, grain, feed, and nut warehouses, picture shows and other public places. This would be the most permanent measure and the most effective. The original cost of rat proofing of old structures would be expensive but future upkeep and extermination would be less than in rat stopped buildings.

2. Vent or Rat Stoppage: Vent or rat stoppage, being a group proposition, would require the cooperation of all persons in the rat-stopped block to be effective. The original cost of this method of rat exclusion, while cheaper than rat proofing, will probably cost more over a period of years due to vacancies, changes in tenants, continuous supervision, upkeep and extermination.

3. Trapping: While trapping properly done is an effective control measure, it cannot be recommended for mass extermination programs due mainly to the cost of labor.

4. Poisoning: Poison is by far the most effective and economic means of temporarily reducing the rat population in an area in a short period of time, and is less expensive than trapping.

5. Fumigation: Fumigation of buildings has to be limited to structures that can be made almost air tight and vacated by human beings and domestic animals for at least 72

hours. Burrows, garbage dumps, etc., can be gassed without much danger. Where gas can be safely or effectively used, it is the best method of extermination. It kills both the rodent and his ectoparasites.

Since typhus fever is already endemic in certain localities in the State, and its incidence is on the increase, the protection of the health of the people of the State from this and other rat-borne diseases depends on the intelligent application of rat control measures.

RECOMMENDATIONS

- 1. That all food-handling establishments, hotels, cafes and warehouses, where grain, nuts, food, or meats are stored, be rat proofed and kept free of rats. That theatres, schools, churches and other buildings that are open to the public be rat proofed and freed of rats.
- 2. That all plans and specifications for new buildings include complete rat proofing.
- 3. That all existing structures housing the above named establishments in areas where there is an incidence of endemic typhus fever be rat proofed and freed of rats.
- 4. That rat stoppage programs, as advocated by Dr. C. R. Eskey, Medical Director, Typhus Control Unit, U. S. Public Health Service, be recommended for municipalities that will pass sustaining ordinances and adequately finance continuous supervision and extermination work.
- 5. In unincorporated towns and rural communities, that mass extermination programs be operated at least twice each year, preferably in late fall and early spring.
- 6. Where evidence would indicate than an infected reservoir has been established in any building, that the quarantine laws be invoked and the place kept closed until rat proofed and freed of rats.
- 7. That continuous educational work be carried on through schools, newspapers and by radio.

Epidemic Meningitis—Sulfadiazine was the drug used in treatment of all cases and the method of administration was determined by the condition of the patient. Those able to take the medication orally were usually given an initial dose of 6 Gm. followed by 2 Gm. every 4 hours for the first twenty-four hours and, depending on the blood concentration, the dose was varied thereafter. During the acute stage of the disease for a period of five to seven days it was desired to maintain a blood level of 15 mg. per cent.—

Juster, Northwest Med., Feb. '44.

BUREAU OF VITAL STATISTICS

Ethel Hawley, Acting Director

PROVISIONAL MORTALITY STATISTICS FOR 1943

Provisional mortality figures for 1943 indicate a splendid showing as to the health of the people in spite of the stresses of war-

MORTALITY STATISTICS 1941-1943

NUMBER OF

	DEATHS 1943 ANNUAL RA (PROVI- PER 100,000 SIONAL) POPULATIO				000	
	White	Colored	Total	1943 (Pro- visional)	1942	1941
Births (Exc. of still- births)* Stillbirths*	† 1180	† 1237	76878 2417	26.1 30.5	25.0 31.7	22.9 36.3
Deaths (Exc. of still- births)	14387	11752	26139	8.9	9.1	10.1
Infant Deaths: Under one year* Under one month* Typhoid and paraty-	1819 1164	1645 883	3464 2047	45.0 26.6	49.3 30.1	58.7 34.6
photo rever (1, 2)	11	5	16	0.5	0.3	0.8
Epidemic cerebrospi- nal meningitis (6) Scarlet fever (8) Whooping cough (9) Diphtheria (10)	38 1 62 33	21 1 73 9	59 2 135 42	2.0 0.1 4.6 1.4	0.8 0.1 3.3 1.4	0.8 0.4 4.6 2.4
Tuberculosis, all forms (13-22) Malaria (28) Syphilis (30) Influenza (33) Measles (35)	492 15 58 323 9	774 48 295 272 10	1266 63 353 595	43.0 2.1 12.0 20.2 0.6	45.5 3.2 14.6 15.3 1.0	
Poliomyelitis (36) Encephalitis (37) Typhus fever (39) Cancer, all forms	18		5	0.2 0.2 0.7	0.6 0.4 1.0	0.4 0.5
(45-55) Diabetes mellitus (61) Pellagra (69) Alcoholism (77)	1271 224 57 22	. 121	345 130	62.2 11.7 4.4 0.8	13.2	65.7 12.4 6.1 1.5
Intracranial lesions (83)	1313	990	2303	78.2	80.1	82.9
Diseases of the heart (90-95)	3063	1972	5035	170.8	165.3	177.1
Diseases of the arteries (96-99)	180	84	264	9.0	11.4	9.8
Pneumonia, all forms (107-109)	822	725	1547	52.5	50.4	52.5
(under 2) (119)	138	120	258	8.8	9.4	12.7
Diarrhea and Ent. (2 and over) (120) Appendicitis (121) Hernia, intestinal ob-	42 112	26 73		2.3 6.3	3.2 5.3	4.0 8.8
struction (122) Cirrhosis of the liver	114	82	196	6.6	6.9	7.3
(124)	92	38	130	4.4	4.4	4.8
(130-132)	1049	1017	2066	70.1	73.0	90.1
(130-132) Diseases of the puer- peral state (140, 150)* Puerperal septice- mia (140, 142a,	152	144	296	37.3	39.0	50.6
147)* Suicide (163-164) Homicide (165-168) Accidental deaths (Exc. Motor Vehicle)	152 91	11	163	10.2 5.5 10.4	6.3	15.0 6.2 15.0
(169, 171-185) Motor Vehicle Acci-	992	504	1496	50.8	52.2	49.0
dent (170) All other known	337	l	İ	İ	j	26.9
causes Ill-defined and un- known causes	2545		1			148.7 88.9
(199-200)	1 331	1110	2209	-11.0		The in the

*Birth and death rates are per 1,000 population. Stillbirth rates are per 1,000 total births (live births plus stillbirths). Rates for disease of the puerperal state are per 10,000 total births. Infant mortality rates are per 1,000 live births.

time. Since the 1943 figures only include deaths reported through December, and there are always some certificates filed late, the final rate will be slightly higher.

The greatest increase has been in the birth rate, 4.4% over 1942 and 14.0% over 1941. Since there will be a great many birth certificates filed late, the increase will be even more marked when the final returns are in.

The decrease in the infant and maternal mortality rates are particularly noteworthy. Since these rates are based on reported births, the final rate will probably be no higher than the provisional rate.

The stillbirth rate for 1943 is 16% less than for 1941; the rate for deaths of infants under one month of age 23% less; and the rate for deaths from puerperal causes 26% less than in 1941. This would seem to indicate that in spite of the shortage of doctors, more mothers are receiving prenatal care than before the war.

There is so little change in the rates from other causes that definite comparisons cannot be made until the final figures are in.

The rates for 1941 and 1942 are final figures for these years.

THE WOMAN'S AUXILIARY

Our president, Mrs. Dan Coyle of Birmingham, called a meeting of the Executive Board of the Medical Auxiliary, October 27, 1943 at the Redmont Hotel: Mrs. Coyle entertained us with a lovely luncheon after which we had a meeting for the purpose of discussing our year's work. Our aim this year is to promote Doctors' Aides in the various Auxiliaries over the State.

The question of our members whose husbands are in the armed services was also discussed. We decided it would be best for them to pay a minimum charge of at least the state dues, in order to keep our records and finances normal. The following were present: Mrs. Dan Coyle, Birmingham; Mrs. Frank Jordan, Huntsville; Mrs. E. V. Caldwell, Huntsville; Mrs. Euclid Isbell, Gadsden; Mrs. George Williamson, Bessemer; Mrs. J. R. Horn, Birmingham; Mrs. A. E. Culberson, Anniston; Mrs. Wallace Clyde, Birmingham; Mrs. George Denison, Birmingham; Mrs. R. H. Tyler, Birmingham; Mrs. Robert A. Cornwell, Birmingham and Mrs. W. J. Rosser, Birmingham.

The Calhoun County Medical Auxiliary met in Anniston November 16, 1943 and was presided over by their president, Mrs. A. E. Culberson. Charles Murphy, State Chairman for the committee working on cancer control made an interesting talk. The main feature was by our State President, Mrs. Dan Coyle, a talk on Doctors' Aides. The ladies going up from Birmingham with Mrs.

Coyle were Mrs. H. A. Harris, Mrs. W. J. Rosser and Mrs. Kellie Joseph.

> * *

The Etowah County Medical Auxiliary held its November meeting which was presided over by their president, Mrs. Euclid Isbell. Mrs. W. J. Rosser of Birmingham gave a delightful and instructive talk on Health and Doctors' Aides.

Below you will find a complete list of the officers and standing committees of the Woman's Auxiliary to the State Medical Association for the present term 1943-1944.

Advisory Board—
Dr. O. R. Grimes, Gadsden
Dr. Kellie Joseph, Birmingham
Dr. H. R. Cogburn, Mobile
Dr. Frank Jordan, Huntsville
Dr. A. E. Culberson, Anniston

President— Mrs. Dan Coyle, 759 Linwood Road. Birmingham President-Elect— Mrs. E. V. Caldwell, 604 Adams Ave., Huntsville

First Vice-President— Mrs. DeWitt Faucett, 630 Turrentine Ave., Gadsden

Second Vice-President— Mrs. H. A. Harris, 2801 Bush Blvd., Birmingham

Third Vice-President— Mrs. George Williamson, 2321 Clarendon Ave., Bessemer Fourth Vice-President— Mrs. A. E. Culberson, 1330 Woodstock Ave., Anniston

Finance Chairman— Mrs. R. H. Tyler, 2 Country Club Blvd., Birmingham

Auditor-Mrs. D. H. Sparks, 1520 7th Ave. W., Birmingham

Recording Secretary— Mrs. W. J. Rosser, 2721 Hanover Circle, Birmingham

Treasurer-Mrs. George Denison, 1624 Bush Blvd., Birmingham

Corresponding Secretary— Mrs. Robert A. Cornwell, 1320 N. 32nd St., Birmingham Archives

Mrs. G. J. Roscoe, 715 Fairway Drive, Birmingham Program-Mrs. Estes H. Hargis, 1231 N. 32nd St., Birmingham

Hygeia— Mrs. A. E. Culberson, 1330 Woodstock Ave., Anniston President of Publicity— Mrs. Euclid Isbell, 425 Haralson Ave., Gadsden

Lettie Daffin Perdue Fund— Mrs. E. S. Sledge, 2528 Springhill Ave., Mobile Memorial—

Mrs. J. R. Horn, 1426 Clarendon Ave., Birmingham Research and Romance of Medicine—
Mrs. Herman Frank, Gadsden
Jane Todd Crawford Memorial Fund—
Mrs. Wallace Clyde, 4172 Cliff Rd., Birmingham

Public Relations-Mrs. Frank Jordan, Box 765 Huntsville Legislative— J. U. Reaves, 1862 Government St., Mobile Exhibits-

Mrs. A. C. Branyon, 302 Col. St., Fayette Parliamentarian— Mrs. H. R. Cogburn, 2505 Springhill Ave., Mobile

BOOK ABSTRACTS AND REVIEWS

A Textbook of Medicine. Edited by Russell L. Cecil, A. B., M. D., Sc. D., Professor of Clinical Medicine, Cornell University Medical College; Attending Physician, New York Hospital; Visiting Physician, Bellevue Hospital, New York City. Associate Editor for Diseases of the Nervous System: Foster Kennedy, M. D., F. R. S. E., Professor of Clinical Neurology, Cornell University Medical College; Attending Physician, New York Hospital; Visiting Physician in Charge, Neurological Service, Bellevue Hospital; Consulting Physician, New York Neurological Institute. Sixth edition, revised and entirely reset. Cloth. Price, \$9.50. Pp. 1,566, with 195 illustrations. Philadelphia and London: W. B. Saunders Company, 1943. phia and London: W. B. Saunders Company, 1943.

For one who has followed the various editions of The Textbook of Medicine by Russell Cecil this, the sixth edition, is the climax of an ideal text-book. The first edition was published in 1927; when compared to the sixth edition one notices the marked improvement, not only in contents, arrangement and date but also in the size, the list of contributors and the completeness.

The sixth edition is truly a textbook by American authors. Its most noted improvement is the arrangement of the printing, which is now in two columns, making the reading much simpler. There have been added approximately a dozen new or relatively new subjects and a complete revision of those in previous issues. There has been an addition of illustrations which the earlier copies did not have. This addition is popular and the selection of illustrations has been carefully made. The preface states that this text is being published in both Spanish and Portugese, which will give it an international field of reception.

The subject of diseases is handled in the usual manner. At the end of each disease there is a group of pertinent references. At the beginning of most of the diseases is a brief history of either the disease or the group of diseases.

In the discussion of measles the restriction of medications is indicated but there is emphasized the use of the sulfonamide compounds for the complications. In the treatment of herpes zoster the contributor includes most of the accepted means of therapy but leans toward the use of collodion cover and x-ray therapy. He mentions the use of pitressin while many use pituitrin. In dealing with infantile paralysis the contributor has been up to date and includes Sister Kenny's principles of heat and passive exercise. previous texts the discussions of the use of bellabulgara in the treatment of encephalitis have been included but Dr. Reimer in his discussion has either intentionally or otherwise omitted this particular drug. A more recent therapy, namely, the use of radium exposure to the postpharyngeal tissues, has not been included by Dr. M. H. Dawson in his discussion of infections and diseases about the throat. This particular form of therapy is gaining popularity. Dr. Tillett in the discussion of venereal diseases has already included the use of intravenous penicillin. The disease of allergy as covered by Dr. R. A. Cook, though brief, is complete and very accurate.

One of the features that marks this as a progressive and new edition is the inclusion of aviation medicine. This branch is relatively new as far as general practitioners are concerned and at the present time it is playing an important part in our progress and understanding of certain physiologic conditions.

The use of roentgenograms in the diagnosis of chronic regional ileitis is a new feature and in the hands of the contributor plays an important part in reaching a correct diagnosis. The pictures accompanying the operative procedure of regional ileitis are excellent reproductions and make the text on the subject more readable. Lung "blast," or pulmonary congestion, is included by Dr. H. A. Reimann and is very timely in view of the present world conditions. In diseases of the heart, particularly arrhythmias, it is hard to conceive how previous editions could carry as much knowledge without electrocardiographic reproductions. These select and rather profusely illustrated reproductions are excellent and Dr. H. J. Stewart must be complimented on his learned presentation. In diseases of the ductless glands the "before and after" pictures are well selected and well reproduced.

An added feature of the entire book is the appendix, including the normal values for clinical examinations which is perhaps the most complete and handy table of values that has been presented to the medical profession.

The index, which consists of 34 pages of very fine print, appears to be quite complete. The references are placed after each diseases or discussion rather than included in one collection at the end of the book.

In general, the 1500 pages that compose Cecil's Textbook of Medicine are truly an encyclopedia, and, as of previous editions, it may well be said that this will still remain as one of our leading textbooks for students; one of the leading refer-Norman Van Wezel. ence books for physicians.

Dietary Inadequacy—Every patient who consults a physician regarding some complaint the nature of which is not obvious needs a dietary history as much as he needs a review of his other habits, and of systemic symptoms. The most satisfactory way of quickly obtaining this information is to ask the patient specifically about the amount of milk, meat, eggs, fruit and vegetables consumed in a day or week.-Lawrence, Maine M. J., February '44.

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INTER-AMERICAN COOPERATION IN HEALTH WORK

COLONEL ALBERT R. DREISBACH Washington, D. C.

There is a phase of inter-American cooperation which presents a particularly striking contrast with the aggressions of militaristic powers. A high order of cooperation has been achieved among the American republics in the interest of building a peaceful and better civilization in the New World and protecting this hemisphere against the designs of would-be world conquerers. Inter-American cooperation has progressed to new heights of achievement in the past eighteen months. Notably it has moved forward in the field of health and sanitation.

The health and sanitation work has evolved from the conference of American foreign ministers held at Rio de Janeiro soon after Pearl Harbor. That conference, as you may recall, adopted a large program to strengthen the defenses of the hemisphere and to mobilize the economic resources of the Americas. To support this mobilization, the conference recommended cooperative health and sanitation measures, to be undertaken by the American republics within their individual capacities to contribute funds, technical skill, materials and labor. In accordance with the Rio recommendations, the United States has entered into health and sanitation agreements with fifteen of the other American republics. This work rests on the firm foundations laid through many years of health progress by the other American republics, by private organizations and by the Pan American Sanitary Bureau. The pioneering and established organizations are aiding in generous measure the supplemen-

Assistant Director, Health and Sanitation Division, Office of the Coordinator of Inter-American Affairs,

tal program which was made necessary by the scale of wartime projects for defense and for mobilization of hemisphere resources.

This supplementary program has taken form in wartime. It has its origin in wartime necessity. This necessity in part is the imperative need for developing new and additional hemisphere resources of minerals, fibers and other tropical-grown materials. These are required partly to offset loss of supplies from outside the Western Hemisphere. This humane work in the field of health and sanitation is symbolic of the friendly relations of the American republics, of their sincere urge to cooperate and to work closely together toward the goal of making life in the Americas better for the average human being. The hospital built through inter-American cooperation might well symbolize the constructive objectives of the inter-American system. It is a symbol which speaks for the saving of human lives. The cannon, the symbol of military aggression, stands for destruction of human life.

The doctors, nurses, sanitary engineers and others at work in the inter-American health and sanitation program are legions of peace. They are carrying into action the Good Neighbor spirit which animates inter-American relations. The program embraces hundreds of construction projects and health activities. These include many new hospitals, health centers, dispensaries, nursing schools, sanitation works and training projects. These add up to the largest health and sanitation program yet undertaken on the basis of inter-American cooperation. The nursing schools, hospitals and health centers will remain after the war as monuments to

the peaceful and the humane goals of inter-American cooperation.

Long ago, through such institutions as the Pan American Sanitary Bureau, improvement in hemisphere health standards was recognized as one of the major objectives of inter-American cooperation. Now the need for inter-American collaboration in this work is more compelling than ever. War, even while it results in wholesale destruction of life, generates counter-measures to protect life. We have our soldiers of production on the home fronts as well as soldiers on the overseas battle front. And, for the safeguarding of the Americas, it is just as necessary to have healthy soldiers on the production fronts as on the military fronts. One aim of the health and sanitation program is to help protect our soldiers of production while, at the same time, continuing to move toward the long-range goal of higher living standards for the peoples of the Americas.

The benefits of the inter-American health and sanitation program will be available to millions of people in the other American republics. These people include workers in the Amazon forests and in the jungles of Central America; miners in the mineral-producing countries of the hemisphere; highway workers in Central America; workers on fiber and quinine plantations; and workers on strategic defense bases. These workers in strategic projects receive immediate and direct benefits from the scores of hospitals, health centers, sewage and water supply and other projects completed or underway.

But the indirect benefits extend much further. Let me digress to explain why. Most of Middle and South America lie in tropical and semi-tropical climate. These tropical areas include the immense Amazon basin, an area almost as large as the United States. In the tropical climates, with their heat, humidity and primitive jungles, disease always has been a primary problem, whether in economic development or in defense strategy. In tropical areas, the malaria-carrying mosquito is the deadliest foe of man. Malaria has taken countless lives in the tropics—and still takes a heavy toll. On Bataan Peninsula and in the Philippines, malaria did more than Japanese bullets to weaken our brave fighting men.

In the tropical Americas, as at Bataan, ma-

laria saps the strength of men and kills many of those who become infected. Industrial enterprise in the tropics, therefore, first must reckon with health and sanitation measures to protect those who must work in humid and hot climates within reach of the malaria mosquito. This is the background of much of the health and sanitation work now being carried out on the basis of the Rio de Janeiro recommendations.

The tropical Americas hold some of the richest natural resources on earth, including supplies of rubber, fibers and other strategic materials formerly imported mainly from the tropical areas of the Far East. It was inevitable that wartime mobilization of hemisphere resources would center in large part within malaria-infested regions, such as the Amazon basin. So, in these tropical climates, the chief work is malaria control. This work involves drainage operations for elimination of mosquito breeding places, spraying and oiling of stagnant pools, building of hospitals and health centers to care for the sick, and distribution of anti-malarial drugs. All who come within radius of this work benefit from it, whether it be a rubber tapper or an inhabitant of a malaria-harassed community engaged in some other occupation. The mosquito makes no distinction between a rubber tapper and a citizen in some other line of work. In the tropics, where malaria abounds, everybody lives under the threat of infection. Thus, while tying directly into the development of economic resources, the malaria control projects spread their benefits far and wide.

This is characteristic of public health work. No favorite group reaps the reward of public endeavor in this field. Poor or rich, all stand to benefit from improvement of public health conditions, whether it be control of malaria or the improvement of water supply. The airplane, the railway and the modern highway have increased the dangers of swift spread of disease, once it starts on an epidemic course. This is true of malaria as of other diseases.

So the Good Neighbor spirit finds eloquent expression in such work as the campaign against malaria now being waged in the Amazon countries, Central America and Haiti. Along the Amazon River and its tributaries, there is being established a chain of hospitals, health centers and floating dispensaries. This chain of malaria control

posts runs for more than 2,000 miles from Belem, near the mouth of the Amazon, far inland to the headwaters of the Amazon in Bolivia, Peru, Ecuador and Colombia. A unique fleet of floating dispensaries is in operation and is being expanded. These are motor launches, equipped with medical supplies and doctors, to reach remote sections of the Amazon country, far away from the few centers of population.

The work in Brazil affords a good illustration of the cooperative aspects of the inter-American program. Brazil has set up a special agency known as the Servico Especial de Saude Publica. This agency is a channel for cooperation with the Institute of Inter-American Affairs, an agency of the Office of Inter-American Affairs. Assigned to Brazil by the Institute are forty United States doctors, sanitation engineers and other specialists. Brazilian specialists and technicians number more than four hundred, in addition to 2,500 other employees. Brazil contributes funds, along with materials, labor and equipment. Altogether these contributions make a cooperative undertaking on truly inter-American lines.

This is pretty much the pattern of the work in other countries. In Spanish speaking countries, most of the republics participating in the program have organized similar agencies known as a Servicio Cooperativo Interamericano de Salud Publica. Where they are able financially, the participating countries contribute funds to supplement contributions of the United States. Their contributions also include supplies, land and labor. On the whole, this health program may justifiably be described as one of the highest expressions of inter-American cooperation, on a foundation of peaceful, friendly relations.

The results of this cooperation will endure long after the war. For instance, extensive training of doctors, engineers, professional and practical workers, nurses and sanitary inspectors is part of the work. These professional and technical workers are being prepared to take their places in the hospitals and the clinics rising in Central and South America. They will join the ranks of the hemisphere's growing forces of public health workers. The knowledge and the skill they acquire will be useful for many years to come. This training work will extend and strengthen public health traditions in the

other Americas. It will contribute to the elevation of health standards. The increasing body of trained public health workers is just as important as the construction of hospitals and health centers and modern sewage and water supply systems. The training projects are of two types. Under one method, physicians, nurses and engineers receive travel grants for training and observation in the United States or Latin American countries. Under the second method, training courses are given locally by the Servicio staffs in collaboration with local health departments or hospital staffs.

Training of additional nurses is one of the most urgent aspects of the main program. This work includes the establishment of nursing schools, reorganization of existing nursing schools, and provision of advanced and brush-up courses for practicing nurses. In various countries cooperating in the program, girl students are starting courses patterned after those of the leading nursing schools of the United States. The United States Public Health Service and the Pan American Sanitary Bureau are aiding in supplying teacher-nurses and helping to lay out courses of instruction. The project for bringing to the United States two Sisters from each of the other American republics for training under the auspices of the Catholic Association of Hospitals is part of the training activity.

Thus a broad program is under way to raise health standards in the other American republics. What this may mean for the future of the American peoples, especially in the tropics, is clear to anyone who has studied the basic importance of health work in these countries. Quite properly our sister republics to the south look to the United States for aid in this work. If we are to have genuine Good Neighbor relations as a basis for progress in the Western Hemisphere, it must proceed in an atmosphere of mutual aid. Mutual aid is the motivation of the inter-American health and sanitation program. The United States, in the spirit of mutual aid, contributes out of its great resources of medical knowledge and supplies to the advancement of hemisphere health standards.

I think I can best illustrate what mutual aid means in human terms by telling you the story of how inter-American cooperation functioned in checking a severe epidemic of malaria among the Indians of Colombia's

Guajira peninsula. The malaria epidemic threatened a large part of the population, numbering more than 40,000. The Guajira peninsula juts into the Caribbean. Malaria usually is prevalent in varying degrees. Late in 1942, however, it increased to the proportions of a very severe epidemic. Drought during the years 1939-41 had forced a migration of population to wetter sections where malaria existed. Last year, with the arrival of heavy rains, a return flow of population set in. The returning migrants brought with them many cases of malaria. So malaria increased until about 80 per cent of the inhabitants of the southern part of the peninsula were affected, with a mortality rate of 10 per cent.

Fortunately, it was possible through inter-American cooperation to take swift action. Colombia's Servicio Cooperativo Interamericano de Salud Publica, set up as a medium of cooperation in the inter-American health program, organized an emergency expedition. The expedition consisted of three doctors, a laboratory technician and two sanitary inspectors, directed by Dr. Alfredo Landinez, an eminent Columbian physician. The expedition carried diagnostic equipment, anti-malarial drugs and materials to control mosquito breeding. The Colombian ministry of war provided airplanes to move men and supplies to Uribia, center of the affected area. The United States military attache at Bogota managed to get a jeep for the expedition. The United States naval attache provided air transportation for Dr. John Bugher of the Rockefeller Foundation, and for members of Dr. Landinez' party. Atabrine was sent to the Indians in large quantities.

By latest accounts, these measures have been successful. The epidemic has been checked. The groundwork has been laid for prevention of another epidemic. Many lives have been saved.

This is only one incident in the inter-American battle against disease which is now being waged on many fronts. Besides malaria, the work includes campaigns against tuberculosis, typhus and other diseases. Antityphus vaccine is being sent by air transport into the Bolivian Altiplano to control typhus in the tin mining areas. The Institute of Inter-American Affairs is shipping 100 bottles of the vaccine weekly, enough to vaccinate 1,000 persons. Special disease problems are being tackled as part of

the main program. This is illustrated in an effort to control onchocerciasis in Guatemala and southern Mexico. This is a worm disease which causes blindness. It is estimated 40,000 persons suffer from the disease in Guatemala. The Institute of Inter-American Affairs has allotted \$100,000 to the Pan American Sanitary Bureau to further the work these countries are doing in controlling this disease.

The health and sanitation work is backed up by a food program, undertaken by the Institute of Inter-American Affairs in cooperation with other American republics. Disease and hunger are twin problems in many places. Better food supply is as essential as hospitals and drugs in protecting workers in the Amazon valley, for example. To become healthy, energetic soldiers of production, the workers in our sister republics producing strategic materials must have proper food. Food, consequently, has been linked with health to make what is known as the "Basic Economy" Division of the Coordinator's office. The same cooperative pattern which runs through the health and sanitation work applies to food projects in areas which need increased local production of food, either because they have lost outside supply sources or have increasing need of food in defense and strategic production projects. Like the health and sanitation work, the food program promises to bring lasting benefits in the improvement of living standards in the Americas.

Health and food are elemental human needs. They are just as elemental in peacetime as in war. The battle against disease and hunger is never ending. Freedom from disease and freedom from want are worthy goals of inter-American cooperation, now and for the long pull. When the war ends, doubtless much of the apparatus for arms production and military organization will be dismanteled. But the apparatus of the inter-American battle against disease and hunger is essentially the apparatus of peace. Hospitals and training schools, doctors and nurses—these represent progress toward the human goals of peaceful, happy peoples. Through mutual aid, the Americas are learning how to multiply hospitals and training schools, doctors and nurses. Inter-American cooperation in this work is one of the best assurances that we will realize the better world for which we fight.

THE MINORITY OPINION ON SILICOSIS

O. R. TROJE, M. D., F. A. C. R. Fairfield, Alabama

Pliny, Hippocrates and Celsus, the earliest observers and writers on dust hazards, condemned inspired dust as the cause of a "fatal emaciation." This idea of the intrinsic lethal effect of inspired dust, all dust, was handed down to others through the middle ages to the present day. The x-ray, the microscope, polarization and cross-polarization of course have greatly aided the more recent investigators and have produced an amount of literature on the subject that is formidable.

To the ancients, dust was dust, even though the stone cutters of their day frequently worked in marble and other non-silicious material, but after the idea of the abrasive, lethal and toxic properties of inspired dust was first promulgated it has firmly adhered to nearly all literature on the subject to the point of prejudice. Few and feeble have been the objections to this form of a priori reasoning.

TERMINOLOGY

The terms pneumonokoniosis, pneumoconiosis, silicosis and silicatosis are too limited by their definitions to be entirely comprehensive. The scientific title of pneumonoultramicroscopicsilicovolcanokoniosis is lingually too awkward and also too time consuming. The very old nickname of "dusted lungs" or the more recent one of "dusty lungs" is descriptive and concise.

GEOLOGY, CHEMISTRY

Silicon is next to oxygen the most plentiful of the elements. It does not occur naturally in the free state but is always found in combination with oxygen as silica (SiO₂) which exists free in nature, or, in combination with water or the metallic oxides, forms the numerous and frequently complex silicates of which the primitive rocks of the earth's crust largely consists.

Of great interest biologically is the fact that silica occurs not only in the mineral kingdom but in the living tissues and structures of plants and animals. Silica is found in the straw of cereals such as wheat and oats. Silica is also found in palm leaves, and as hydrated silica in the nodes of bamboo.

Read before the Association in annual session, Birmingham, April 21, 1943.

The skeletons of the miscropic plants known as diatoms are entirely composed of silica.

In the animal kingdom silica is found in the living tissues. and is contained to the extent of 40% in the feathers of birds. Sponges are the chief marine animals in which silica occurs. The normal thyroid contains a little more than 1 12 of 1% silica. It is an essential constituent of the pancreas. It is normally present in the urine and feces. Forty per cent of the ash of human hair is SiO₅.

Kahle found that an organic preparation of silica made by Weyland had a beneficial influence on the formation of connective tissue in the affected organs of tuberculous guinea pigs. It was suggested by Emerson Reynolds in 1909 that these occurrences of silica show that silicon is capable of playing the part of an "organic element." Silica can replace carbon to a limited extent in all organisms and can replace calcium entirely in some.

It is thought possible that at a much higher temperature a "silicon protoplasm" analogous to a carbon protoplasm might have formed the basis of living organisms. As a matter of speculation it is easily conceivable that a "silicon protoplasm" was the temple of life during the early stages of the earth's development and that carbon protoplasm took over only after the temperature dropped to a point conducive to its survival.

Another observation made by Kahle prior to 1922 is significant. He found that when cattle became tuberculous the pancreas lost a large portion of its normal silica content while the affected lymph glands showed a marked increase. This would tend to support the opinion that silica does not necessarily have to be in contact with or adjacent to a tuberculous lesion; but that it is so essential to the protective effort of the organism against tuberculous infection that it may be removed, however indirectly, from a remote organ to serve this purpose.

Silica exists in nature in the amorphous and colloidal as well as in the crystalline form. Tripoli, an example of micro-amorphous and opaline silica, is used as a polishing powder and in the manufacture of dynamite. It is a diatomaceous earth composed almost entirely of the skeletons of water-inhabiting microorganisms. Quartz, amethyst, agate and onyx are examples of crystalline silica. Opal is a form of amorphous colloidal silica formed by the drying of gelatinous silica. Flint and chert are mixtures of quartz and amorphous silica of aqueous and organic origin. Felspar and clay are examples of complex aluminum silicates with other bases. Crystalline and amorphous silica are insoluble in water and all acids (except hydrofluoric). Some forms of the opaline and amorphous silicas are soluble in alkaline carbonate solutions.

Now you may ask, why all this talk about the geology and chemistry of silica? What has that to do with our interest as physicians in silicosis? The answer to this is that every possible component of a medical problem must be carefully considered, evaluated and correlated. There can be no such thing as too much or even enough detail. We do not understand many things because we too easily and too arbitrarily specialize. Silica has been considered by many writers as a deadly and inherent poison of living tissue. I do not think silica any more poisonous than calcium or carbon. One could speak of a silicon metabolism just as one does of a calcium metabolism; and, furthermore, it might be stated that silicosis is an upset silicon metabolism, or perhaps an upset calcium metabolism forcing the tissues to use whichever element is available for defense.

It has been suggested that if sufficient calcium were present it would be used by the tissues in preference to silica; however, with a relative scarcity of calcium and an abundance of silica, the defense mechanism may sometimes utilize silica.

The complete insolubility of crystalline and amorphous silica does not agree with those who speak of the poisonous nature of colloidal silica due to the solution of the crystalline silica in the lung by the tissue juices. Colloidal silica may enter with the inspired dust because the crystalline, amorphous and colloidal forms are often associated; but it can not be derived from the insoluble silica content in sufficient quantity or concentration to produce toxic effects, local or remote, when one considers the amount of silica required in normal metabolic activity. As to the deaths of the phagocytes it has not yet been definitely proved

that silica is entirely responsible. It is difficult to imagine an element so long and so intimately associated with living structures as being intrinsically poisonous to them.

GENERAL CONSIDERATIONS

All variations of "dusty lungs" are fundamentally believed to be the result of the inhalation of SiO₂ or its numerous or physical combinations. For many years the subject has been controversial depending upon the viewpoint of the investigator. There are four methods of study: the medical, the roentgenographic, by experimental animal research, and the industrial.

The medical viewpoint is hampered by lack of material, a few cases being reported by numerous widely scattered observers who draw divergent and frequently erroneous conclusions. These conclusions are accepted as facts by others and passed on in the literature without proper investigations. The same fault can be found with isolated roentgenographic investigations.

In experimental animal research it has been found necessary, due to the shorter life span of the experimental animals, to curtail the essential factor of time, and to compensate for this by exaggerating the reciprocal factor of dosage. This of itself would increase the possibility of error in the final result, Saranac Laboratory notwithstanding.

The industrial investigation on the other hand consists of a survey in which a large number of silicotics are studied statistically, medically, roentgenographically and sometimes pathologically. In addition, the working conditions, the percentage of silicious material in the inspired air, and the size, number and silicon percentage of the dust particles inhaled, together with the length of time of exposure in the particular industry from which each workman comes, are carefully considered. This is the only way in which an accurate opinion as to incidence, morbidity, mortality, etc., of silicosis can be obtained.

Many articles written by observers not connected with industrial surveys assume without doubt that all rock drillers in underground mines have silicosis. This is not true, and the assumption is to be attributed to a premature opinion not based upon a careful consideration of all factors. In one mine in Minnesota no evidence of silicosis was found in any of the workers due to these facts: 1.

Water seeps into the mine through the walls which are constantly wet. 2. The rock and dirt contain less than 12% silica. 3. The ventilating system of the mine is almost ideal. In an adjoining mine less than one mile away some cases of silicosis exist. In this mine the rock contains 65 to 72% silica, there is no moisture and ventilation is poor.

Another common assumption is that an atmosphere laden with silica dust predisposes to tuberculosis but numerous statistics from various unbiased sources tend to prove that not only is the incidence of tuberculosis less in the silicotics than in the other inhabitants in the surrounding country but also the incidence of head colds and pneumonia is lower.

ETIOLOGY

The condition is to be attributed to inhalation of air-borne dust containing a definite percentage of SiO₂ concentration (or SiO₂ in combination) and a definite size of the inhaled particle, the possibility of acquiring silicosis being inversely proportional to the size of the particle. Among predisposing causes are individual susceptibility, mouth breathing, and past or present respiratory infections, particularly those of the nasal sinuses. Variation in individual susceptibility is not understood. Since cases of silicosis are reported among individuals who have never been exposed to air-borne dust (Arial George, Boston), the question as to how this dust gained entrance to the body with ultimate deposition in the lungs is of extreme interest though so far unanswered. It is not too speculative to suspect the gastro-intestinal tract. In fact, excepting the skin, this is the only other way in which silica or its compounds could gain entry to the blood stream. Supporting this conjecture is the fact that gallstones containing a fairly large percentage of silica occur; likewise urinary calculi containing silica are found. latter occur more frequently in domestic animals feeding in dry regions on dust covered grasses.

SYMPTOMS AND DIAGNOSIS

Simple silicosis gives no symptoms. Diagnosis depends on x-ray and occupational history.

ROENTGEN FINDINGS

There is lack of relationship between x-ray evidence and clinical evidence; i.e., extensive nodular pulmonary involvement on

films with little or no clinical evidence of pulmonary disease. From the plate alone it is difficult or impossible for the average observer to make a diagnosis of silicosis, and it is by no means always easy for the expert. Both should be cautious about venturing an opinion on the x-ray film alone.

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PATHOLOGY

Contrary to established belief the changes seen in the lungs of silicotics are not due to fibrous connective tissue. The so-called fibrosis is really due to scattered deposits of collagen which are laid down in several various patterns.

CLASSIFICATION

The Saranac Laboratory gives the following standard of classification for pulmonary fibrosis:

- P 1. Peritruncal exaggeration.
- P 2. Marked peritruncal exaggeration.
- S 1. First degree nodulation.
- S 2. Second degree nodulation.
- S 3. Third degree nodulation.

Lewis Gregory Cole has this classification:

- 1. Peribronchial-perivascular lymph node
 - 2. Nodular or tuberculoid manifestation.
 - 3. Parenchymal.

manifestation.

4. Cystic, which is supposed to be a byproduct of the blocking off of terminal bronchi, a multiple ball-valve effect.

The collagen deposits are a defense mechanism and the late symptoms of dyspnea are due more to capillary occlusion and intervascular changes the result of collagen encroachment than to loss of alveolar air capacity. Other classifications are:

- 1. Prenodular.
- 2. Nodular grades 1, 2, and 3 depending on the size in millimeters of the nodules.
 - 3. Conglomerate.

Some say that as the condition advances the nodules increase in size but not in number; others, that as they increase in size they decrease in number. None of the classifications are of much practical value and some of them have carried the process of differentiation to the point of absurdity. Silicotuberculosis or tuberculo-silicosis are undesirable and misleading mongrel terms similar to the term typho-malaria once so popular.

TREATMENT

There is no treatment.

CONCLUSIONS

- 1. Silicosis is not a disease. It does not disable the individual or cause death.
- 2. Simple silicosis plays no part in the production of any disease, neither does it increase the incidence of any disease.
- 3. Silicosis, like calcification, is a defense effort.
- 4. Recent reports tend to confirm statements made by early investigators as to the beneficial effects of silicosis in tuberculosis. This is not new. As far back as 1920 Walker Overend stated that "pulmonary tuberculosis induces the production of pneumoconiosis

in dust workers; the presence of the dust hinders the development of existing tubercles and converts what might become an ordinary or common phthisis into a mild, very slowly progressive fibroid form."

- 5. The possibility of the existence of some as yet unknown factor in the etiology deserves consideration.
- 6. To quote Gage Clement: "The old idea of 'miner's consumption' is a hand-me-down from one authority to another, until the average physician has forgotten, as far as miners are concerned, that tuberculosis is caused by the bacillus of Koch and not by silica dust."

ALLERGY IN INFANTS

W. A. CLYDE, M. D., F. A. A. P. Birmingham, Alabama

The many clinical manifestations of allergy are bizarre and interesting. Textbooks and papers on the subject make it sound matter-of-fact, logical and easy but actual treatment in a large percentage of cases is exceedingly trying and difficult.

Besides the commonly accepted and classical examples of allergy, such as asthma, hayfever, migraine, eczema, angioneurotic edema, urticaria, anaphylactic shock, serum sickness, etc., allergy has been considered a basic factor in such diseases as turberculosis, lobar pneumonia, scarlet fever, rheumatic fever, nephritis, purpura and epilepsy. Levine, Katzin and Burnham have published an article (J. A. M. A., March 1, 1941) entitled "Isoimmunization in Pregnancy: Its Possible Bearing on the Etiology of Erythroblastosis Foetalis," which adds several clinical conditions to the ever-growing list in which allergy plays a part.

I am not an allergist and do not wish to claim allergy as the cause of all feeding problems or all rashes seen in infants. However, it seems to me that pediatricians are daily seeing an increasing number of crying, colicky, eczematous, nervous infants and of children with chronic rhinitis, sinusitis, asthma and neurodermatitis. Bret Ratner states in the Journal of Pediatrics that "all individuals are potentially capable of developing allergy. The capacity to become sensitized differs in individuals more largely

because of quantitative rather than qualitative consideration. Individuals are subject to sensitization at any age but the periods of greatest vulnerability appear to be the antenatal period, early childhood and during illness and convalescence."

Obstetricians, and physicians giving prenatal care, should bear in mind that infants may be sensitized in utero. Especially in women who give allergic histories these principles should be followed: (1) prescribe a widely varied diet; (2) give a large portion of the food in allergenically-denatured form; (3) discourage overeating, and (4) warn against excessive indulgence in any single protein food and satisfaction of food cravings.

Davison (Compleat Pediatrician) states that eczema occurs in infants about the third month of life and that it is seven times more frequent in artificially fed than in breast fed babies. This is true, but these infants have shown other signs of allergy long before the eczema began if a detailed history is obtain-In fact they were probably taken off the breast because of vomiting or colic. I am fully convinced that certain foods eaten by the mother may cause allergic reactions in breast fed infants. This does not always mean that the infant should be stopped from the breast but rather that a careful history of the mother's diet be taken and corrections made.

CASE REPORTS

Case 1: J. L. T., white male, age 5 weeks, began projectile vomiting on January 14, 1941. He was entirely breast fed and had received no orange juice or cod liver oil. The family doctor gave atropine and amytal with no results. The baby continued to vomit, and cried constantly. He was tried on several formulae but continued to vomit and cry. He was brought to me after losing over one pound in weight and the mother had been advised that a Ramstedt operation was necessary.

In questioning the mother about her diet it was found that although she did not like sweet milk she felt that she had to drink a quart a day in order to keep up her supply of breast milk. She had been drinking milk in the form of chocolate milk, cocoa and egg-nogs. She also was fond of candy and ate chocolate candy containing various nuts nearly every day. She was told to leave sweet milk, chocolate, raw eggs and nuts out of her diet. The baby improved immediately and has gained 5 pounds since January 20th (last weighed on March 25th) and is entirely breast ted. Several breast fed babies were seen during the past Christmas season with such complaints as rashes, colic, vomiting or diarrhea. Most of these improved when nuts, chocolate, egg-nogs and other possible allergens were omitted from the mother's diet.

While on the subject of breast fed babies let me make a plea for a greater effort on the part of obstetricians and pediatricians to have more breast fed babies. The modern hospital routine is to blame for a great part; too many babies are regimented to a four-hour schedule regardless of size or strength; too many are filled up with sugar solutions or stock formulae. A good many. I am sure, are sensitized to cow's milk by feeding them dried milks in some stock formula when they are only 12 to 48 hours old. I do not think that a baby should receive any type of milk formula until he is at least 3 or 4 days old. By this time, if no breast milk or insufficient breast milk is available a postcibal formula can be given, preferably of heated evaporated milk. I have heard doctors tell mothers "your breast milk does not agree with the baby" or "your milk is not rich enough. It is thin and blue looking." (Normal breast milk is thin and blue looking.)

Case 2: This is an example of gastro-intestinal allergy in older children. The patient is a white male, age 11 years. History of abdominal pain. recurrent attacks of vomiting and occasional diarrhea since the age of 2. His father has so-called "catarrh"; his mother has migraine. The boy by the age of 7 years had been "wormed" several times, his tonsils and appendix had been removed but he continued to have the same attacks. He

was found sensitive to wheat, chocolate, apple and celery and has no attacks if he adheres to his diet. He is now showing some vasomotor rhinitis and has had a few mild asthmatic attacks.

Recently I had a very shocking experience. A handsome little boy, twenty months of age and the only child of doting parents, was brought to me with a history of eczema from the age of six weeks. plus several attacks of generalized urticaria and angioneurotic edema. He had been the rounds, having been examined and treated by fourteen different physicians (all reputable) and two chiropractors. He was hospitalized for observation and controlled study. On the fourth day I left him playing in bed, apparently very happy, the eczema much improved. This was about 10 A. M. At 3 P. M. he suddenly went into a convulsive state and died. He was receiving no foods to which he had previously shown sensitivity. He had a normal temperature, a normal blood pressure, normal blood sugar, blood calcium and phosphorus. His urine and stool, blood Wassermann, and chest x-ray were all negative. The blood count was about normal except for a 14% eosinophilia.

Autopsy was refused and just what caused his death I do not know. Two pediatrician friends have told me of having had a similar experience, and I would like to quote Dr. William C. Deamer:

"The problems confronting the pediatrician caring for infantile eczema are numerous. Apart from those which are obvious to him, there would seem to be hidden ones lurking in the background. Hellier and Virasora and Ugarte mention a meteorologic and climatic factor. Davis records his unfortunate loss of three consecutive cases in which sudden unexplained death occured. All were hospitalized patients, a factor he considers important. Asperger mentions the danger of vaccinating siblings of children with eczema. A 9-month-old eczematous infant died of generalized vaccinia acquired from her 12-year-old brother.

"Eczema in infants and young children may be caused by allergy to foods, to inhalants, to organic or inorganic contactants, to fungous or low-grade pyogenic infection, or to chemical or mechanical irritation. The clinical picture and, above all, the search for the etiologic factor are therefore complicated. It is probably true, however, that most cases develop on an allergic soil, and discussion will be confined to this." (J. Allergy, September 1940).

While there are many causes of eczema in infants the vast majority are a result of food allergy (milk, wheat, cod liver oil, etc.).

There are several methods of handling the milk situation. (1) Give cow's milk that has been cooked for several hours. (2) Use heated evaporated milk. (3) Provide a complete milk substitute, or (4) use evaporated goat's milk. If the eczema is mild it might be best to let the baby continue with the usual milk formula as he will gradually desensitize himself.

Many infants have pylorospasm or enterospasm in addition to eczema so that they suffer from hunger, malnutrition, abdominal pain, intense and terrifying itching plus the continuous bouncing and rocking at the hands of the distraught exhausted mother.

Thick formulae made by adding barley water to the milk used, or by cooking a mixture of milk, water, sugar and some cereal such as Farina or Cream of Wheat for 3 or 4 hours in a double boiler will often relieve the spasm. If an infant is sensitive to the lactalbumin in cow's milk he may be able to take goat's milk, but if casein is the causative factor he will not, as goat and cow casein apparently are immunologically the same. I have not skin tested any infants under one year of age but by the trial and error method have found many who could not tolerate goat's milk. We also find infants who can not tolerate the bean flour milks such as Mull-Soy or Sobee. It is wise when using these mixtures to begin with a very dilute formula and gradually increase to the desired strength.

In severe crusty, weeping and infected eczemas a continuous hot wet dressing of boric acid solution for 2 or 3 days will usually get the infant in condition to apply the indicated ointments. Personally I get better results using some of the already mixed proprietary ointments such as Mazon or Calamoin. We find some infants with eczema who improve when given large doses of vitamins, especially B and D, calcium salts and occasionally minute doses of thyroid.

DISCUSSION AND SUMMARY

In the short time allotted I have tried to focus attention on just a few of the problems seen daily by the pediatrician.

Elimination diets may be found in textbooks on allergy.

Wheat-free, milk-free and egg-free foods and recipes may be obtained from the Chicago Dietetic Supply House, 1750 W. Van

Buren Street, and from the Purina Company, St. Louis.

The makers of Cerevim also market a dried cereal of individual grains such as rye, barley, oats, wheat, etc. They will send samples on request for trial in allergic babies.

The following information is quoted from the round table discussion on allergy in the Journal of Pediatrics for May 1940:

Certain food proteins, such as casein, almond, oat, ovomucoid, soybean and fish, appear to be resistant to moist heat. Fish and glue remain allergenic even though boiled. On the other hand, gelatin is only infrequently an offender, probably because it is boiled in its manufacture and is never consumed in the raw state.

I propose that the allergenically denatured diet can be used:

1. In all cases of allergy, irrespective of the sensitization.

2. During the newborn period.

3. As a basic part of the diet in infancy (always remembering to use cevitamic acid when the diet is used over prolonged periods).

4. During weaning from the breast.

- 5. During pregnancy and lactation when excessive amounts of foods are desired by the mother.
- 6. During convalescence from disease, pylorospasm, dysentery, chronic intestinal indigestion, and mucous colitis.
- 7. During malnutrition and chronic disease when large amounts of protein foods are added to the diet.

The following is a tentative list of allergenic and nonallergenic foods we have thus far worked out. Caution should be exercised, and, for the time being, those foods which have been shown to be highly antigenic, even after cooking, should be kept out of the allergenically denatured diet, with the exception of casein which plays a minor role in the milk-sensitive case:

Allergenic Foods

Raw milk, casein
Milk boiled for a few minutes
Pasteurized milk
Acidified milk
Dry milk
Malted milks
Cream cheese, cottage, farmer
Cream sauces
Cream
Butter
Beef serum, rare meats
Eggs, raw, soft-boiled, coddled, friend, scram-

bled, and poached All malt extracts

Malt brews

Malt brews Malt sugar

Wheat, raw, white bread, rye, pumpernickel, ordinary toast

Pastries, pie crust, all cakes Pancakes and waffles

Crackers, all cookies, pretzels, matzoth

Cooked corn meal, canned corn, corn on the cob, cornstarch pudding, corn bread

Rice and corn fritters Oatmeal Soybean Fresh fruits and juices All fresh vegetables Condiments Nuts Confections Chocolate Fish

Allergenically Denatured Food

Freshly heated evaporated milk Freshly heated SMA Milk boiled for several hours Freshly heated acidified evaporated milk Thoroughly cooked beef and other meats Beef broths and other meat broths and soups Egg boiled for thirty minutes Dextrimaltose Corn syrup Cane sugar Thin melba toast Precooked wheat Prolonged cooked cereals Spaghetti and macaroni cooked Multiple precooked dry cereal (pablum, precooked corn cereals, popcorn) Precooked rice cereals Thoroughly cooked fruits, jams and jellies Thoroughly cooked vegetables

I feel that the chief burden of treating allergic diseases in infants and children rests

on the shoulders of pediatrician. The dermatologist, allergist and otolaryngologist may be of some help but they do not realize the nutritional requirements of the child. We should certainly try to relieve the allergic child, not just give adrenalin or ephedrine when he is having an acute attack of asthma or urticaria. We should search diligently for the cause. This requires *repeated* and detailed histories and, if skin tests are used, a commonsense interpretation of them.

We should constantly bear in mind the fact that "The allergic child is never static; his allergic pattern is continuously changing; he is becoming acclimated to some allergens and sensitized to others. . . Any allergic child should be under observation not for weeks or months but for years. He overcomes some sensitivities, but acquires new ones. He has a constitutional defect, just as a diabetic has, which cannot be changed by any doctor. However, his symptoms can usually be controlled, and he has often-but by no means always—the ability to overcome his sensitivities and cure himself in the course of time." (Bulletin, New York Academy of Medicine.)

AINHUM

A REVIEW AND CASE REPORT

G. C. USSERY, M. D. Roanoke, Alabama

DEFINITION

Ainhum, derived from an African word meaning to saw off, is a disease occurring almost exclusively in Negroes. It is rare in females and is almost exclusively confined to the dark skinned races, only four cases having been reported in whites. (Brayton, J. A. M. A., July 8, 1905.) However, it has been observed among white people and consists in the spontaneous amputation of the little toe by an adventitious fibrous band.

ETIOLOGY

Ainhum is a disease of Negroes almost exclusively though occasionally observed in the white race. Report of a case in a white girl in Florida is of interest because of the appearance of ainhum in the Southern States and previously reported in the Negro race only. (Eskridge, Med. Record, Septem-

ber 17, 1910.) Though relatively rare in the United States, ainhum is so common in India that Crawford found a case in every two thousand surgical patients in Indian hospitals. Cases have been reported in the United States by Bringier; and in October 1936 Dr. R. H. Alldredge reported in detail, with x-ray and pathological reports, cases seen at the Employees' Hospital, Fairfield, Alabama. Hindus also are said to suffer from the disease. Heredity does not play a role in its production.

PATHOLOGY

The lesions observed have been hypertrophic thickening and retraction of the derma, with consequent atrophy of the underlying bone. (Herman, Weber, Wucherer, Schuppel.) It has been confounded with congenital amputation, but, as stated, ain-

hum is never congenital. That the disease has some connection with leprosy is insisted upon by some authorities. According to Zambaco-Pocha undoubted symptoms of leprosy are present in all cases of true ainhum. It should be looked upon as an attenuated form of the latter disease. Its relations to scleroderma are explained by the fact that this latter affection is a special form of leprosy. It has also been attributed to syphilis, larvae and atavism. While it is true many cases of ainhum occur together with syphilis, the latter is the rule rather than the exception in many of the regions where ainhum is commonly found.

Dr. Alldredge states that "after considering the available information at this time, it seems to me that the disease would best be considered as a trophoneurosis." This agrees with Matas and H. N. Blum, writing in the Medical Record, October 22, 1904 of a personal case in a Negro, 65 years of age, whose right little toe was affected in the characteristic way. The toe was disarticulated at the metatarsophalangeal joint under cocaine anesthesia, and the cicatrix has since remained in healthy condition.

No definite undisputed cause for the lesion has yet been proved but Wellman (J. A. M. A., March 3, 1906) thinks there is more to be said in favor of Dr. Silva Lima's view: that it is due to traumatism. The splay-footed Negro is especially liable to such, and the groove around the toe in this disease, both microscopically and histologically, is a cicatrix.

Summary: First there is a condition of inflammatory edema. Later there is a degeneration of original elements followed by atrophy. The highly organized tissue, such as sweat glands, blood vessels, muscles and bones are all changed into connective tissue. In all there are evidence of impaired nutrition, due to pressure, and vasomotor and trophic manifestations. (Weinsten, South. M. J., October 1913.)

SYMPTOMS

The first indication of the disease is a furrow on the lower surface of the affected member, usually the little toe, at the proximal interphalangeal joint. The furrow, the result of the circumferential pressure exerted by a fibrous ring, gradually deepens until the bone is reached, this process sometimes taking several years, and in some cases

as long as ten. The distal portion of the toe becomes greatly hypertrophied, then finally drops off, the stump healing without further complications in the great majority of cases. It does not give rise to much suffering in the cases where the amputation is gradual. Pain is usually absent in the early stages but may become a prominent symptom late in the disease. It is sometimes mistaken for leprosy.

Touman Abbe (Med. Annals, November, 1910) observed two cases of ainhum at Garfield Hospital Dispensary. He watched the progress of the cases for two years and showed photographs and x-rays of them taken at the beginning and end of observation. One case, a Negro, a native of Maryland, was of sixteen years' duration but only slightly advanced. The pain in the fissure or crack was, however, sufficient to induce her to have the toe amputated. The specimen showed the groove in the soft tissue and the slight atrophy of the bone. The other case, also a Negro, a native of Georgia, who lived fifteen years in the District of Columbia, was of about twenty-five years' duration and much more marked than the other case. The groove around the toe was deepest on the plantar and inner margins of the toe and had penetrated almost to the toe nail. The middle phalanx was practically gone; only the nail bearing part of the ungual phalanx remained; the basal phalanx was atrophied about one half. The advance of absorption of bone was quite plain in this case.

TREATMENT

Surgical measures alone prove of value in these cases. Early section of the fibrous ring is sometimes sufficient to arrest the progress of the disease, or division of the skin down to the periosteum on the opposite side of the seat of the disease may be resorted to. This was successfully used by Murray. It is now agreed that amputation of the toe is the only treatment to be recommended. However, in recent years, new forms of medical treatment have been advocated.

CASE REPORT

J. G., colored male, aged 71, came to my office November 7, 1935. He complained of a sore between the right little toe and the third toe, also severe pain and swelling of the right little toe. About four weeks ago, he noticed a small ulcer between the toes. This gradually became painful. In dressing this ulcer, he noticed a fissure or groove extending from the right side of the ulcer

around the base of the little toe. The pain was now so severe that he was unable to sleep and spent the night sitting up in a chair. Morphine, one-fourth grain, given by mouth, failed to give relief. On November 30, he returned to my office and requested that the foot be amputated, saying that he could no longer bear the pain. The fissure had now progressed to such a depth that the joint was opened on the inner surface.

He was a native Alabamian and had spent his life in Randolph County near and in Roanoke. His mode of living was the usual for his race and vocation. He had always lived on a farm. No illness of a serious nature was reported and he denied ever having a venereal disease. In 1921 there was a fracture of the right ankle resulting in permanent deformity and a disturbance of the circulation in the ankle and foot. He has been a drinker of moonshine whisky since sixteen years of age.

Physical Examination: The patient was a small, well developed old man, walking with a decided limp due to deformity of the right ankle. His height was five feet, six inches and he weighed one hundred forty-six pounds. General examination revealed nothing of interest other than hard and torturous arteries. Blood pressure 180/ 100; the pupils reacted normally. Arcus senilis present. Reflexes diminished. There was a deformity of the right ankle due to an old fracture. some swelling at the joint and extending three inches above. Did not pit on pressure. Was firm and resistant. The distal end of the right little toe was greatly enlarged. There was no sensation in the toe to either heat or cold, nor to sharp or blunt instruments. When first seen, November 7, 1935, there was a small ulcer between the third and little toe, about one cm. in diameter. There was a fissure completely encircling the toe at its base. When seen on November 30th, the fissure had opened the joint at the metatarsophalangeal articulation. The Wassermann test was negative as was the urinalysis. The sedimentation test was within normal limits. Due to economic condition a complete study could not be made.

Treatment: December 1, 1935, with the use of 1% novocaine, the toe was disarticulated at the metatarsophalangeal articulation. There was no pain, and practically no bleeding. The skin was greatly thickened, white and edematous. I was unable to slide it forward to close the wound. Patient returned home. After forty-eight hours the entire left leg was swollen upward to the knee with large blisters over the anterior and lateral surfaces. Two weeks later, the left leg was swollen in a similar manner. The urine remained negative and his heart action was normal. No change was noted in blood pressure. The wound healed slowly without any treatment. The swelling of the legs disappeared and they returned to normal size after four months. Examination on December 22, 1936 revealed that the Negro was in normal physical condition for his seventy-two years. There was no evidence of involvement of other toes or fingers. There was no swelling of the legs.

The patient continued in good health for his age without any recurrence of the ainhum. He died January 1940 of cardiovascular renal disease.

COMMENT

My interest was aroused by the article of Dr. Alldredge referred to. It and his case report were most interesting and thorough. It enabled me to make a correct diagnosis in my case, which, prior to this, I had considered as one of endarteritis obliterans.

The thought occurred to me that possibly ainhum is not so rare in the Southern States or United States as believed. It might be escaping us by not being properly diagnosed. I find little about it in current medicine and surgery. Perhaps this article will stimulate others in the diagnosis of the disease.

Dysmenorrhea—Treatment should be instituted only after a thorough history and physical examination have been done. In obese or malnourished patients, correction of these conditions will cure the dysmenorrhea in many instances. The presence of anemia, tuberculosis, nephritis and other systemic disorders or diseases must be ruled out, and treated. Not infrequently change in environment or corrective exercises for the sedentary worker will correct her menstrual complaint. Simple antispasmodics (tinct. belladonna: 10 gtts. tid) and mild sedatives (phenobarbital, gr. 12, tid) used for two to three days before and during the first two days of the period will help. The psychogenic factor is quite important, and psychotherapy is frequently of value. Then, too, we must agree with the old statement that in some cases at least "dysmenorrhea is the protest of the disappointed uterus" and pregnancy may bring an end to the patient's lament. Pregnancy does not cure nearly so many cases of dysmenorrhea as once supposed. and should be advised with caution and due reservation as to the benefits to be derived therefrom. It is often embarrassing to have a patient assurred of a "pregnancy cure" return with severe dysmenorrhea and reasonably demand that we explain its recurrence.

When we have exhausted the possible benefits to be obtained from the simpler measures of diet, exercise, change in environment, simple sedation and antispasmodics we may consider the use of endocrine therapy.

By far the most valuable hormone in the treatment of dysmenorrhea is thyroid. Thyroid should be used far more liberally than in the past. To be effective it should be used to clinical tolerance, to a large extent, ignoring the basal metabolic rate. While it is advisable to have a preliminary basal metabolic rate and subsequent ones to check the effect of medication, clinical signs of overdosage are more valuable and should be closely observed. Thyroid should be given in dosages of ¼ to ½ gr. three times a day and increased or decreased as indicated.

Where simpler measures plus thyroid are not efficacious, the other hormones may be tried.— Weinstein, New Orleans M. & S. J., March 1944.

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SULFADIAZINE IN THE TREATMENT OF THE COMMON COLD

"The common cold derives its medical importance from the fact that it is followed so frequently by secondary infection. The uncomplicated cold, now generally accepted as caused by a filterable virus, runs a mild course, usually afebrile, and clears up completely in four to seven days. On the other hand, a cold complicated by a secondary bacterial infection which may involve the sinuses, middle ear, mastoids, larynx or lungs can lead to a fatal outcome. It is evident, therefore, that the cold problem would be greatly simplified if all colds could be retained in the uncomplicated form by some relatively harmless medication. The value that sulfadiazine, the least toxic of the sulfonamides, might have in this role is the consideration of this study."

"It is generally agreed the sulfonamides have little or no effect on the virus initiating the common cold, but it has been accepted that they are effective agents against the pneumococcus and the hemolytic streptococcus. Also there is evidence that they are effective, but to a lower degree, against Haemophilus influenzae and the hemolytic staphylococcus, the other two most common secondary invaders of the respiratory tract following colds."

The above are the opening paragraphs of the recently published inquiry of Cecil. Plummer and Smillie¹ into this subject. The New York investigators go on to tell us that "the value of the routine use of the sulfonamides in the treatment of the common cold has been widely speculated on in medical circles but very little detailed investigation has been carried out on this problem." And also that "this brief summary of the literature indicates that the exact role of the sulfonamides in the treatment of upper respiratory infections has not been accurately determined. Our purpose in this study has been (1) to determine the effects of small oral doses of sulfadiazine on the nasopharyngeal flora of persons suffering from acute coryza and (2) to ascertain, if possible, the indications for the use of sulfonamide therapy in upper respiratory tract infection, estimating the benefits to be expected in such cases from this therapy.

And the authors conclude by stating that

"(1) Seventy-two colds in 66 different persons were followed clinically and bacteriologically; 48 received sulfadiazine, 3.0 gm. daily by mouth for four days, while 24 served as controls.

"(2) Following sulfadiazine, the nasopharyngeal flora as observed by serial cultures showed a uniform decrease in total number of organisms and a check in the growth of pathogens."

"(3) The clinical course of the treated colds showed no striking difference from that of the controls; however there appeared to be some amelioration of the symptoms due to control of secondary bacterial infection.

"(4) As a result of this study, we are opposed to the routine use of sulfonamides in the treatment of the common cold but would favor their use in a few selected cases as a protection against severe secondary infection."

The New York observers have done well to consider this subject in as exact and scientific a manner as is possible and both their methods and conclusions appear to be sound. It is to be hoped that their work can be repeated and confirmed by both themselves and other investigators upon a larger scale.

^{1.} Cecil, Russell L.; Plummer, Norman, and Smillie, Wilson G.: Sulfadiazine in the Treatment of the Common Cold, J. A. M. A. 124: 8 (Jan. 1) 1944.

It is not encouraging to note the overwhelming faith that many lay persons, and a goodly number of physicians also, have in the sulfonamides for any and all infections. And this continues despite the fact that the injudicious and excessive use of these drugs can bring about serious and even fatal consequences. It will be difficult to curb the

enthusiasm of the laity, but practitioners can be more guarded in their use of these dangerous compounds if they will try hard enough to do so. Every physician who routinely gives the sulfonamides at once to each patient with a cold will do well to heed the admonitions of Cecil, Plummer and Smillie.

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D., State Health Officer in Charge

DISEASES COMMON TO HUMANS AND ANIMALS

Most of us think of humans and animals as belonging to entirely different spheres. It is true that, in a broad sense, we regard man as a member of the animal family, but there is a tendency to imagine a wide gap separating the two groups. We point to basic differences which, we say, keep man and animals in different worlds, so to speak. We say, for instance, that most animals walk on four feet, while man walks on two. As a rule, animals move with their bodies parallel to the ground, while men walk with their bodies at right angles to it. While animals show outbursts of anger and other fundamental emotions characteristic of humans. they are not believed to share man's higher emotions. Except for the mechanical repeating of sounds taught them, animals are incapable of speech. So far as is known, they experience no consciousness of dependence upon a Higher Being, and worship, in the sense that we humans understand the term, is not a part of their lives.

But there is one field in which man and the so-called lower animals have much in common. That is in the field of health. While there are many forms of illness which one group has but not both, there are also a surprisingly large number to which both are susceptible. This would be a matter of academic interest only were it not for the fact that animals suffering from certain diseases readily transmit them to humans, and vice versa. Thus a person who is eager to keep well must watch out against infection not only from his business and social associates

but also from his own and his neighbors' animals. Some of these illnesses are catapulted across that barrier between animal and man by means of direct physical contact. Others are transmitted by means of infected meats or milk. Others leap that barrier with the assistance of insects and parasites. In still others certain animals act as disease reservoirs from which infection is transmitted back to man, where it originated.

Let us first merely list the diseases common to both humans and animals and known to be transmissible from one group to the other. Among those which are transmitted to man primarily through contact with infected animals or by the consumption or handling of infected meats and milk we find anthrax, brucellosis (or undulant fever), cowpox, foot and mouth disease, glanders, milk sickness, psittacosis (or parrot disease), rabies, the salmonella, staphylococcus and streptococcus infections, swine erysipelas, tuberculosis, tularemia (or rabbit fever), and such parasitic infestations as beef tapeworm, pork tapeworm, fish tapeworm and trichinosis. Those of the second category diseases for which animals serve as reservoirs of infection and which man contracts through insects, ticks and other modes of transmission—include the deadly plague, relapsing fever, Rocky Mountain spotted fever, tetanus, typhus fever, encephalomyelitis (eastern and western strains) and leptospirosis (or Weil's disease). And finally there is the third group of diseases—those which animals contract from humans and which in turn are transmitted to the same or other humans. This group includes diphtheria, encephalitis (the St. Louis strain), smallpox (which of course becomes cowpox when the cow contracts it) and the streptococcus infections, such as scarlet fever and septic sore

J.M.A. Alabama April 1944

throat. Let us consider a few of these diseases briefly.

Of considerable public health importance in Alabama is the disease known variously as brucellosis. Malta fever, and undulant fever. Because of the difficulty of diagnosis and other conditions, only a relatively small percentage of cases actually existing are reported. But the epidemiologic reports are significant as indicators of trends. And the trend revealed by this State's undulant fever reports of recent years is definitely and disturbingly upward. As recently as 1933 only 12 cases of this disease were reported from the entire State, but in 1940 and again in 1942 this yearly total reached 70, or nearly six times the 1933 total.

Although only within recent years has undulant fever assumed a position of major public health importance in Alabama, there is every reason not to consider it a new member of the family of illnesses. Indeed some experts say it probably existed in the time of Hippocrates, some four centuries before Christ. However, its causative organism in humans was not isolated until 1886. and it was not until after this country entered the first World War that this organism and those which, in the meantime, had been isolated from hogs and cows, were recognized as in reality three strains of the very same organism. Another important contribution to science's knowledge of this disease came in 1904, when it was learned that milch goats were an important and dangerous reservoir of infection. It has since been learned that milch cows also are susceptible to infection.

However, the drinking of cow's or goat's milk is not the only means by which undulant fever may be contracted. Butchers. abattoir employes and others handling meat or otherwise coming into close contact with animal carcasses or live animals are exposed to it. The eating of raw or insufficiently cooked meat also involves a risk from this point of view. Fortunately, the danger inherent in milk may easily be removed by pasteurizing it. As not nearly all of the milk now consumed in Alabama is pasteurized, the protection of our population as a whole in this way is still a goal for the indefinite future. However, individual milk consumers, housewives and heads of families can provide this protection for themselves and

their families by allowing no unpasteurized milk to enter their houses. Brucellosis is of course as definitely an occupational disease among meat-handlers as silicosis is among certain types of miners. However, measures have been devised which greatly reduce, if they do not entirely eliminate, this hazard. And, simply enough, the danger of contracting undulant fever by eating insufficiently cooked meat is to see that all meat is thoroughly cooked.

Care in cooking is even more important in the prevention of another troublesome and dangerous disease which man contracts from animals—trichinosis. Whereas the avoidance of all but well cooked meat is only a partial protection against undulant fever (since the great majority of cases are contracted from infected milk), the person who eats only well cooked pork may consider himself or herself practically certain not to contract trichinosis. For the great majority of trichinosis cases are contracted by eating

improperly cooked meat.

This form of illness is caused by the parasite known as trichinella, a round worm which passes its entire life in a single host. This may be a person, a rat, a hog, or, more rarely, a fox, cat, dog or bear. After meat of this kind which has not been sufficiently cooked (or held at low temperatures long enough to kill the parasites) is eaten and enters the stomach, the capsules in which the larvae are encased disintegrate and the larvae are set free. Soon afterward they pass into the intestines, where they grow rapidly and in about two days become adult worms. Then they begin to reproduce at a rapid rate. The young worms, or baby larvae, are deposited in the lymph spaces of the intestinal wall, where they enter the blood stream, which carries them to the muscles. There they become encapsulated. Any person or animal eating meat containing larvae is likely to develop trichinosis. As a result of the protection afforded by these cysts, or capsules, the larvae may live for many years in the muscles, a potential danger to every careless meat-eater. Hogs, the chief reservoir of trichinosis in humans, become infested with the larvae from coming into physical contact with the carcasses of other hogs, from feeding upon raw offal at slaughter houses, and from uncooked garbage containing scraps of pork.

Although, as already pointed out, the most

reliable protection against trichinosis is the avoidance of all pork products that have not been thoroughly cooked or kept at low temperatures for a considerable time, the incidence of the disease can be reduced by preventing hogs from becoming infested. This can best be done by destroying as many rats around butcher shops, slaughter houses and feeding houses as possible and by cooking all garbage before it is fed to hogs. Unfortunately, little protection is afforded by the inspection of meat, since it is a practical impossibility to inspect every part of every animal carcass, and freedom of one part from infestation does not necessarily mean that other parts are also free.

Trichinosis is much more prevalent than most people think. Routine autopsies on persons who have died from other causes and have no trichinosis histories have revealed infestation involving from five to 27 per cent of all the bodies examined.

The pasteurization of milk which has already been recommended as the best means of preventing undulant fever infection from milk is also recommended as one means of preventing a more serious and better known disease, tuberculosis. Fortunately, federal and state authorities have taken aggressive measures to remove this source of infection by a program aimed at the elimination of tuberculous cows. This gigantic undertaking was begun in 1917, and in 1940 the last county in the country was declared to be relatively safe in this respect. During the intervening 23-year period, approximately 4.000.000 tuberculous animals were slaughtered, some 230,000,000 tuberculin tests were made, and approximately \$275,000,000 was spent by the federal, state and local governments on this campaign.

Dr. Robert Koch, the first person to isolate the tubercle bacillus and prove tuberculosis to be an infectious disease, was of the opinion that tuberculosis could not be transmitted from cows to humans. However, it is now known that he was mistaken. For a long time after his misconception was recognized those who exposed it erred themselves by asserting that tuberculosis in cows could produce in humans only tuberculosis of the bones, joints and glands—not the much more prevalent and fatal pulmonary tuberculosis. Contemporary authorities now say that as many as seven per cent of all

cases of human tuberculosis, regardless of type, are traceable to tuberculous cows. However, tuberculosis of the bones, joints and glands is still regarded as a particular health hazard to children who drink unpasteurized milk from tuberculous cows, since most cases of pulmonary tuberculosis are believed to be contracted from human victims of the disease.

The extermination of tuberculous cows is of course only one of a two-pronged offensive against tuberculosis, which still ranks in seventh place as a cause of death in Alabama. Advancing steadily from the other side against this ancient enemy is the program of early-stage diagnosis, hospitalization, isolation and other measures for the prevention and cure of the disease. The tuberculosis mortality reports tell a cheering and moving story of success.

A third means of reducing tuberculosis morbidity and mortality is efficient meat inspection. Certainly all meats which have not been properly inspected should be thoroughly cooked. If they are already free from the tuberculosis germ, of course cooking well done is not necessary, but it is nevertheless a wise precaution, an added bit of safety.

From our consideration of those diseases, it is quite plain that animals and humans suffer from many of the same illnesses and often become menaces to each other's health. This fact should not disturb the happy relationships existing between them or cool the warm comradeship between a man and his favorite animal. It should, however, result in the observance of whatever precautions may be necessary or wise.

Industrial Hygiene Services-The much publicized facts of industrial absenteeism point out the health department's responsibility to industrial workers. It is neither accidents nor occupational diseases which cause the greatest amount of lost time from work, but the everyday causes of illness common to adults. Most state and local departments have already established services to deal with many of these problems of adult health, including tuberculosis, venereal disease, cancer, dental hygiene, mental hygiene, maternal health, and nutrition. At the same time that the health department attempts to extend these services to workers, industry is seeking the various services which health departments have to offer. It is logical that industrial employers will turn to the division of industrial hygiene for assistance in securing health department services, having first hand acquaintance with this branch of the department.—Draper, Am. J. Pub. Health, March 1944.

BUREAU OF LABORATORIES

Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

DECEMBER 1943

Examination of diphtheria bacilli and	
Vincent's	535
Agglutination tests (typhoid, Brill's,	
undulant fever)	273
Typhoid cultures (blood, feces and urine)	384
Examinations for malaria	320
Examinations for intestinal parasites	1,535
Serologic tests for syphilis (blood and	
spinal fluid)	41,722
Darkfield examinations	32
Examinations for gonococci	2,322
Examinations for tubercle bacilli	1,333
Examinations for Negri bodies	
(microscopie)	33
Water examinations (bacteriologic)	1,119
Milk examinations	1,887
Miscellaneous	

Total 51,706

TOTAL SPECIMENS-1943

Examination for diphtheria bacilli and	
Vincent's	8,481
Agglutination tests (typhoid, Brill's,	
undulant fever)	7,406
Typhoid cultures (blood, feces and urine)	7,652
Examinations for malaria	12,948
Examinations for intestinal parasites	21,314
Serologic tests for syphilis (blood and	
spinal fluid)	542,100
Darkfield examinations	455
Examinations for gonococci	33,529
Examinations for tubercle bacilli	19,028
Examinations for Negri bodies	
(microscopic)	519
Water examinations (bacteriologic)	11,356
Milk examinations	25.124
Pneumococcus typing	56
Miscellaneous	3,704

Total 693,672

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director

ADEQUACY OF PRENATAL CARE
PROVISIONAL ANALYSIS OF REPORTS RECEIVED
FROM COUNTIES

Contributed by

W. A. Cunningham, M. D. Consultant in Obstetrics

An analysis of the reports from the health departments of 44 counties, representing approximately 75% of Alabama's population, allows for the following deductions regarding the State's prenatal program:

- 1. In all three mortality categories; namely, maternal deaths, stillbirths and neonatal deaths (under one month of age), there was a marked improvement (reduction) as regards those patients who attended maternity clinics as compared with those who did not.
- 2. a. The whites who attended maternity clinics were relatively few in number—884 out of 33,760 total white deliveries or 2.6%.
- b. The colored who attended maternity clinics were a large proportion of all colored patients who were delivered in 1943—6,307 out of 20,117 or 31%.
- 3. a. On the basis of percentage, the colored attended clinics twelve to one as compared with white patients.
- b. On the basis of actual numbers of patients, the colored attended clinics over seven to one.
- 4. Thus, deductions as to the whites are not as reliable as those dealing with the colored.
- 5. The maternal mortality rate for the State as a whole was 30 per 10,000 deliveries, consisting of 21 for whites and 45 for colored. These figures include clinic patients. For those patients attending maternity clinics, the rate was 34 for whites but less than 24 for colored, a reduction of almost 50%.
- 6. The *stillbirth* rate for the State as a whole was 31 (per 1,000 deliveries). This consisted of a rate of 23 for whites and 45 for colored. For maternity clinic patients the rate was 20 for whites and 28 for colored, or a reduction of one eighth for whites and over one third for colored.
- 7. The *neonatal mortality* rate for the State as a whole was 27 (per 1,000 deliveries) consisting of 24 for whites and 31 for colored. For maternity clinic patients, the rate was 12 for whites and 17 for colored, or a reduction of one half for white and nearly a half for colored—a really spectacular achievement.
- 8. Thus, as far as the colored are concerned, the reduction was one half for maternal and neonatal mortality and over one third for stillbirths.
- 9. The maternity clinics, like all other organizations these war days, operated under especially severe handicaps during 1943, due to shortage of clinicians and nurses, doctors being pressed for time, and with a minimum of supervision from the Bureau. For six

months of the year there was no obstetric consultant at all. Some clinics were closed, and others continued without a clinician but under the supervision of county health nurses. The transportation problem presented itself for both the patient, making it difficult or impossible sometimes for her to attend the clinic regularly, and for the nurse as regards her home visits. All in all, the above figures demonstrate, as nothing else will, the value of prenatal care. After the war, with complete supervisory, clinician and nursing staffs, we can well imagine the further and steady reduction that will be made in maternal and infant mortality.

COMPARATIVE STATISTICS (1940-1943)

	Maternal Mortality	Stillbirths	Neonatal Deaths
1940	58.8	38.4	36.3
1941	49.6	37.6	36.0
1942	38.6	31.8	30.0
1943	30.0	31.0	27.0
Overall reduction 1940-1943	n 49%	1977	26%

COMPILATIONS FOR 44 COUNTIES-1943

Total patients delivered White patients delivered	53,877 33,760
Colored patients delivered	20.117
Total patients attending maternity	20.111
clinics	7,191
White patients attending maternity	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
clinics	_ 884
Colored patients attending maternity	
clinics	6,307
Number of midwives	1,549
Licensed	1,287

For illustrative purposes let us select a county with a large number of colored deliveries of which a high percentage attend maternity clinics. Sumter County had 621 colored deliveries in 1943 of whom about 80% or 493 attended maternity clinics. We shall consider only colored deliveries, and the results speak for themselves.

The rates for this county are as follows:

	Maternal Mortality	Stillbirths	Neonatal Mortality
For entire coun	ty 41.0	79.0	29.0
patients	156	320	78
For clinic patients	_ 0	18	16
Reduction	100%	94%	80%

Now let us consider Jefferson County, the largest county in Alabama, with one sixth of the state's population and by far the larg-

est number of deliveries of both races—12,-908, of which 7,688 were white and 5,220 colored. Of the 5,220 colored deliveries 1,045 were clinic and 4.175 non-clinic patients. Here we find the following for the county as a whole:

	N	laternal Iortality	Stillbirths	Neonatal Mortality
White		25	22	27
Colored		52	45	38

Colored maternal mortality and stillbirths were two to one compared with white. An analysis of colored deliveries only, non-clinic compared with clinic, shows

	Maternal Mortality	Stillbirths	Neonatal Mortality
Non-clinic	60	50	42
Clinic	19	27	22
Reduction	68′,	46%	48%

A complete and spectacular victory for maternity clinics and prenatal care is demonstrated.

BUREAU OF PREVENTABLE DISEASES D. G. Gill, M. D., Director

PREVALENCE OF COMMUNICABLE DIS-EASES IN ALABAMA

1944

	•		E. E.*
	Jan	. Feb	. Feb.
Typhoid	4	4	9
Typhus	. 42	32	10
Malaria	47	49	56
Smallpox	2	1	3
Measles	1251	1578	550
Scarlet fever	61	71	76
Whooping cough	50		99
Diphtheria	31	37	39
1nfluenza		1313	3421
Mumps	133	207	206
Poliomyelitis	. 0	2	3
Encephalitis		1	1
Chickenpox Tetanus		163	225
	0	0	3
Tuberculosis Pellagra		237	225
Pellagra Meningitis		64	12
Pneumonia	927	601	13 666
Trachoma	021	001	000
Tularemia	1	2	2
Undulant fever	2	3	2
		0	0
Amebic dysentery	0	3	0
Cancer	181	197	0
Rabies-Human cases	- 0	0	0
Positive animal		23	U

As reported by physicians and including deaths not reported as cases. *E. E.—The estimated expectancy represents the median incidence of the past nine years.

"From the earliest times, laws have been enacted for the preservation of the health and safety of mankind, and those nations whose sanitary ordinances have been most rigidly enforced have enjoyed the greatest freedom from disease."

BUREAU OF VITAL STATISTICS

Ethel R. Hawley, Acting Director

PROVISIONAL MORTALITY STATISTICS

REPORTED BIRTHS, STILLBIRTHS, DEATHS FROM CERTAIN IMPORTANT CAUSES AND RATES*—
ALABAMA, JANUARY 1944, 1943, 1942

	Number of Deaths Registered— January 1944		Rate (Annual Basis)		is)	
Births, Stillbirths and Causes of Death	White	Colored	Total	1944	1943	1942
Births (exclusive of stillbirths) Stillbirths	0.0	**	6771 174	27.0 25.0	26.7 25.1	24.7
Deaths (exclusive of stillbirths)	1592	1158	2750	11.0	9.3	11.0
Infant Deaths: Under one year Under one month	165 93	174 95	339 188	50.1 27.8	49.2 30.4	73.4 42.0
Typhoid and paratyphoid fever, 1, 2		1	1	0.4	0.4	0.4
nal meningitis 6	9	2	11	4.4	3.2	0.4
Scarlet fever 8 Whooping cough 9 Diphtheria 10	1 4	5	 6 5	2.4 2.0	3.2 2.4	2.0
Tuberculosis, all forms 13-22 Malaria 28 Syphilis 30 Influenza 33 Measles 35 Poliomyelitis 36	55 8 140 1	62 1 19 107 1	117 1 27 247 2	46.7 0.4 10.8 98.7 0.8	41.2 0.4 10.8 27.6	59.4 2.0 13.5 29.1 0.4 0.4
Encephalitis 37 Typhus fever 39	3	1	4	1.6	0.8	$0.4 \\ 2.0$
Cancer, all forms 45-55 Diabetes mellitus 61 Pellagra 69 Alcoholism 77	131 29 8 2	45 9 4	176 38 12 2	70.3 15.2 4.8 0.8	65.5 12.0 4.4 1.2	58.1 12.3 8.6 2.0
Intracranial lesions 83	109	106	215	85.9	82.3	99.9
Diseases of the heart 90-95	322	184	506	202.2	184.2	179.7
Diseases of the arteries 96-99 Bronchitis 106	14 6	8 1	22 7	8.8 2.8	8.0	11.5 0.8
Pneumonia. all forms 107-109 Diarrhea and ente-	147	102	249	99.5	73.1	90.0
ritis (under two years) (119) Diarrhea and ente-	3	5	8	3.2	2.4	5.3
ritis (two years and over) 120 Appendicitis 121 Hernia, intestinal	3 8	7	3 15	1.2 6.0	2.0 3.2	2.9 3.7
obstruction 122 Cirrhosis of the	15	5	20	8.0	6.4	11.0
liver 124) Nephritis, all forms	9		9	3.6	4.0	3.7
130-132 Diseases of puer-	112	82	194	77.5	73.1	99.9
peral state 140-150 Puerperal septice-	11	10	21	30.2	36.4	**
mia 140, 142a, 147 Other puerperal causes 141-150.	4	2	6	8.6	10.2	9.9
exc. 142a. 147 Suicide 163, 164 Homicide 165-168 Accidental deaths	7 16 3	8 1 12	15 17 15	21.6 6.8 6.0	26.2 5.6 10.8	7.4 10.6
(exc. motor vehi- cle) 169, 171, 195 Motor vehicle 170 All other causes Ill-defined and un-	82 33 223	54 4 154	136 37 377	54.3 14.8 150.6	50.7 16.0 147.8	64.3 25.0 172.3
known causes 199-200	85	165	250	99.9	77.1	110.1

Birth and death rates per 1,000 population; infant death rate per 1,000 live births; stillbirths per 1,000 total births (inclusive of stillbirths); from specific cause per 100,000 population; from puerperal causes, per 10,000 total births.

"*Not available.

BUREAU OF SANITATION T. H. Milford, M. S. in S. E., Director

FOOD-BORNE INFECTIONS

Contributed by
Franklin A. Clark, B. S., D. V. M.
Chief Sanitarian

From a food sanitation standpoint, foodborne infections include not only those spread by foods themselves but also those conveyed by food utensils as well. There are 62 reportable communicable diseases listed by the U. S. Public Health Service. Of these, 26 can be spread through foods or food utensils.

Some foods may be infected at the time they reach the food establishment. These infections include brucellosis, diphtheria, bacillary dysentery, paratyphoid fever, scarlet fever, septic sore throat, tuberculosis and typhoid fever from milk; brucellosis. food poisoning, paratyphoid fever, trichinosis, tuberculosis and tularemia from infected meats; and paratyphoid and typhoid fever from infected oysters. The number of these diseases indicates the importance of purchasing inspected foods of known high quality and therefore of probable safety.

Foods may also be infected in the food establishment during preparation, storage and serving. Infection during preparation usually results from a carrier or infected person preparing or handling the food, although flies, rats, dust, contaminated water and faulty plumbing may contribute. The most common infections from carrier or infected food handlers include diphtheria, amebic and bacillary dysentery, food poisoning, paratyphoid fever, septic sore throat, tuberculosis and typhoid fever. The infections conveyed by flies to foods include food poisoning, bacillary dysentery, paratyphoid and typhoid fever, and possibly others. Rats may infect prepared foods or food ingredients with food poisoning, paratyphoid fever and possibly others. Fleas from rats may also infect customers and employees of food establishments with typhus fever. The infections occurring from impure water and faulty plumbing include amebic and bacillary dysentery, and paratyphoid and typhoid fever. Storage of prepared foods sufficiently long and at sufficiently high temperatures to permit appreciable bacterial growth also

usually plays an important part in many of the above since the number of organisms from most of these sources is usually so small as to cause few infections unless opportunity for multiplication is provided.

The majority of the diseases listed above may occur as food epidemics although not always. A rather large group of infections may result from infected food utensils. These rarely occur as epidemics. The reason for this is evident when the chain, infected person to food utensil used by him to the next person using this same utensil, is recalled. These diseases include scarlet fever, septic sore throat, diphtheria, tuberculosis, Vincent's infection or trench mouth, whooping cough, common colds, influenza, mumps and syphilis. It is to combat these infections, as well as for esthetic and other reasons, that food regulations prescribe the methods of cleaning and bactericidal treatment of repeated-service utensils.

Chemical food poisoning, although not an infection, has been reported a number of times in the recent past. Sodium fluoride (roach powder) accidentally entering foods or food ingredients is the most commonly reported of these.

The U. S. Public Health Service has been collecting statistics on food-borne epidemics in the United States for several years. Its 1942 report shows 231 recorded epidemics in which 10,883 persons were ill and 94 died. The 1941 report shows 225 epidemics with 6,069 persons ill and 53 deaths. As will be noted, the death rate was very low, being less than one per cent. Fortunately, the most common food-borne diseases rarely cause death. In 1942, 197 of the 231 epidemics reported were food poisoning or gastroenteritis.

The tabulation of food-borne epidemics, copies of which can be secured from the U. S. Public Health Service, Washington, D. C., is interesting for study because the incriminated food and source or mode of infecting it is given in most cases, as well as short narrative reports of the epidemiologist where these reveal pertinent information. A study of the kind of foods responsible reveals that in 73 of the 231 epidemics for 1942, the incriminated food was one which was handled extensively in its preparation, such as salads, sandwiches, etc. Ham, usually cold boiled or tenderized, was the incriminated

food in 31 epidemics, while hamburger was named only twice and shellfish 4 times. Failure to refrigerate adequately foods held over was given definitely as a contributing cause in 55 epidemics, and probably contributed in 92 others. Carrier or infected foodhandlers were reported for 28 epidemics.

The 94 deaths reported as occurring from food-borne epidemics in 1942 may appear of little concern when it has been estimated that about 65,000,000 persons patronize public food serving establishments in the United States per day. Not nearly all of the epidemics reported were from public food serving establishments. Neither are the 10,883 cases of grave concern since most of them were simple cases of food poisoning which recovered in one to four days. However, as was stated above, not nearly all food-borne infections occur in epidemic form. No one can accurately estimate the number or percentage of cases of colds, influenza, mumps. pneumonia, trench mouth, or tuberculosis spread by food utensils or foods since every person contracting these may have been exposed in other ways also. Few of all the cases of food poisoning and gastroenteritis are reported as epidemics. This is to be attributed to the fact that the health department is not notified until a number of persons have become sufficiently ill to call a doctor in a comparatively short period, or a number of people who have frequent social contact with each other have had opportunity to compare experiences following a luncheon or banquet. In the case of public food serving establishments where the majority of customers are strangers to one another and the operator, if a diner becomes ill 3 to 72 hours after eating, he is not apt to have contact with anyone else who was made ill from the same food, and therefore may not connect his illness to any particular food or food establishment. Even though he may suspect a particular food eaten, unless he is quite ill and has a doctor, who also has several other similar cases, the chances are remote that it will ever be reported to the health department. Even though it were, it would be difficult for the health officer to locate sufficient other cases to incriminate the particular food or food establishment.

Several public health workers familiar with food-borne infections have agreed orally with the writer that there are at least ten food-borne infections for every one that is

traced epidemiologically to the source. If that is true, the 10,883 cases reported in 1942 represent 108,830 infections. Only 7 of these cases were reported from Alabama, representing on the above basis only 70 infections in Alabama in an entire year. The ridiculouslessness of that figure is evident. Death certificates for 1942 show 21 deaths in Alabama for which food infection was reported as the primary cause. Conversations with many persons who eat rather regularly in public food-serving establishments convince me that on an average practically every one

of them has some food infection (usually mild) at least once per year. Then remember that over 20,000,000 persons are served in public food establishments every meal period. On that basis, the reported food infections are only a very small fraction of the actual. The need for unceasing vigilance of operators and employees in public food establishments, and of continuing and vigorous supervision by the health department, is thus brought into a more nearly true perspective than is indicated by the numbers reported in epidemics.

BOOK ABSTRACTS AND REVIEWS

Handbook of Tropical Medicine. By Alfred C. Reed. M. D., Associate Clinical Professor of Medicine, Stanford University School of Medicine, and J. C. Geiger, M. D., Director of Public Health, San Francisco, California. Cloth. Price, \$1.50. Pp. 188. Stanford University, California: Stanford University Press, 1943.

With the interest in tropical diseases created by the war and with the prospect of returning soldiers bringing these infections with them, textbooks on this subject are particularly timely. As the title implies, this is not an exhaustive treatise on any of the diseases covered but it does deal in concise form with those diseases likely to be of interest to the American practitioner. The epidemiology, symptomatology, pathology, diagnosis and treatment of each disease is covered as well as the means of prevention. This handbook is well written and covers its field.

D. G. Gill.

The Education of Nurses. Historical Foundations and Modern Trends. By Isabel Maitland Stewart, R. N., A. M., Professor of Nursing Education and Director of the Division of Nursing Education, Teachers College, Columbia University, New York, New York. Cloth. Price, \$3.50. Pp. 399. New York: The Macmillan Company, 1943.

Nursing and allied professions are indebted to Miss Isabel Maitland Stewart for a graphic and authentic account of the development of nursing and nursing education. This book is intended for professional students and workers in the field of nursing education. Persons actively engaged in hospital administration or concerned with the product of nursing schools would do well to read this book. Reports on the findings and records of various committees are given: as, for example, "Nursing and Nursing Education in the United States." Dr. C. E. A. Winslow was Chairman of this Committee. In its recommendations for improvement, two important provisions were stressed: the control of the school by a board or a committee organized more or less independently for the primary purpose of education; and adequate funds for the educational expenses of the school itself. The committee on the grading of nursing schools completed its study in 1932. The purpose of both of these studies was to present facts in the hope that schools of nursing would evaluate their schools and make needed improvements. The better schools did benefit from these studies but the mediocre schools seemed to be untouched.

The book is divided into eight chapters. The first two describe the systems of training in primitive time to 1860, and the Nightingale System as it was established in England. One cannot help but be impressed with the vision and clarity of thought shown by Miss Nightingale. Had her pattern been followed more closely in America, many pitfalls could have been avoided. As an example of her logical thinking she based her school curriculum on a functional analysis of duties and qualifications, a tool now in use by civil service.

The development of nursing education in America is described in three twenty-year periods—from 1873 to 1893, a pioneering period; the second from 1893 to 1913, a period of great expansion regulated somewhat by legal and professional controls; the third from 1913 to 1933, a period of stress, experimentation and painful self-examination.

The effect of World War Two on nursing and what nurses are doing about it is briefly described. Miss Stewart's look into the future is particularly timely. She stresses the need for the basic democratic rights. She predicts a rapidly changing environment and suggests that education should prepare one for this social change. To quote: "It takes an alert, stable, and flexible mentality to keep pace with the modern worlda mind that is not simply trained in routine habits but is able to adjust quickly and yet maintain its essential integrity or wholeness. Education today must do more than pass on what is worth saving from the past. It must help to rebuild a world that has been badly shaken by new forces that are still in large measure out of control."

Pearl Barclay.

Nutrition and the War. By Geoffrey Bourne, D. Sc. Second edition, revised and enlarged. Cloth. Price, \$1.60. Pp. 148. Cambridge: At the University Press, New York: The Macmillan Company, 1943.

This little book was written to help the layman with problems of nutrition at a time of rationing, shortage and high prices.

The average housewife will appreciate the practical facts about food stated in simple terms

and presented in four short chapters.

Chapter Five, "Nutrition in War Time," should be of interest to everyone charged with the responsibility of serving nutritionally adequate meals in the face of the present food situation.

The list of best sources of the various food ele-

ments is quite helpful.

Anyone interested in eating in accordance with scientific standards should find this book definitely helpful.

Amanda Tucker.

Medical Parasitology and Zoology. Ralph Welty Nauss, M. D., Dr. P. H.,, Assistant Professor of Public Health and Preventive Medicine, Cornell University Medical College; Consulting Parasitologist, New York Hospital. Foreword by John C. Torrey, Ph. D., Professor (Emeritus) of Epidemiology, Cornell University Medical College. Cloth. Price, \$6.00. Pp. 534. New York: Paul B. Hoeber, Inc., 1944.

The experience of the author in laboratory diagnosis and in teaching medical parasitology and zoology is the basis for this book. There are four main topics discussed: protozoa parasitic in man; worms parasitic in man; arthropods and disease transmission; poisonous and venemous animals. The nature, causation, diagnosis, prevention and treatment of the human diseases caused by these agents are described concisely.

The preface is an epitome of a course in medical parasitology and zoology for second-year medical students, while in the appendix are a glossary, bibliography and index. The illustrations are good, the printing excellent and the presentations lucid but brief.

This is a book to be recommended for students, teachers and clinicians.

S. R. D.

Applied Dietetics. The Planning and Teaching of Normal and Therapeutic Diets. By Frances Stern, Chief of Frances Stern Food Clinic, The Boston Dispensary; Assistant in Medicine, Tufts College Medical School; Special Instructor in Dietetics in Social Service, Simmons College, School of Social Work; Associate in Nutrition, Simmons College, School of Home Economics. Second edition. Cloth. Price, \$4.00. Pp. 265. Baltimore: The Williams and Wilkins Company, 1943.

The new or second edition of this book includes the most recent research in nutrition, and contains an abundance of authoritative information

in a very compact form.

The chapters dealing with "Environmental Factors that Influence the Effectiveness of the Diet" and "The Education of the Patient on the Diet" should prove very helpful to the physician in dietetic treatment of his patient, to the public health nurse, or other public health workers who recognize nutrition as a part of the general health program and are concerned with making practical application of scientific nutritional facts.

The dietitian will find the dietary outline and the summaries in table form very helpful in planning and teaching both normal and therapeutic

diets.

Because of the absence of technical terms and its interesting presentation, it could be very profitably used by many people in educational work.

Amanda Tucker.

AMERICAN MEDICAL ASSOCIATION NEWS

SAYS SECURITY AGAINST SICKNESS IS BEST OBTAINED BY PREVENTION

JUST PROVIDING MORE CARE AFTER THE PATIENT IS ILL IS ILLOGICAL AND UNSCIENTIFIC, THE EDITOR OF HYGEIA DECLARES

"An attempt to build security against sickness by providing more care after the patient becomes ill, rather than by overcoming the factors that lead to sickness, is illogical and unscientific," Morris Fishbein, M. D., declares in an editorial in the April issue of Hygeia, The Health Magazine, in which he points out that the practice of preventive medicine is barely recognized by the Wagner-Murray-Dingell bill. The editorial is as follows:

"In its consideration of various plans for providing people with medical care, the American Medical Association, through its House of Delegates, which speaks for the organization in matters of policy, has emphasized that the quality of medical service is paramount. The conditions associated with the administration of medical service must be examined with relation to their effects on the quality and sufficiency of such service. In every governmental directed or compulsory system of medical service the quality of the service is inevitably diminished in the attempt to decrease costs, particularly when the added burden of governmental administration is placed on the funds available for medical care.

"One of the chief difficulties arises from the attempts of most of the proposed legislation, including the Wagner-Murray-Dingell bill, to provide a single system of medical care for every portion of the country. There are areas in the United States in which a multiplicity of competent physicians and 332

specialists makes possible free choice of doctor and hospital and a maintenance of the present system of medical practice. There are no doubt areas in which the only method for providing medical care would be the employment of a full-time salaried physician. There are still other areas in which group medical practice, from both points of view—that is, a group of physicians serving a group of patients organized under a prepayment system—may be the best possible solution to the local situation. The medical profession is giving careful consideration to all these plans, and there are hundreds of plans now being utilized to meet varying local needs.

"The standards of living of the people of the United States are generally recognized as the best in the world. No doubt there are areas in which the standards of living are much lower than in other areas. The problem concerned is not, however, how to give less of everything to all the people but rather how to give more and better of everything to all the people. Many of the deficiencies in distribution of medical service result from improvidence of persons in some groups and from inadequate evaluation of what is most necessary for life and happiness. The tendency to place responsibility for the intimate affairs of his life on the individual and to limit responsibility to local rather than federal control may well be fundamental in the maintenance of the American democracy.

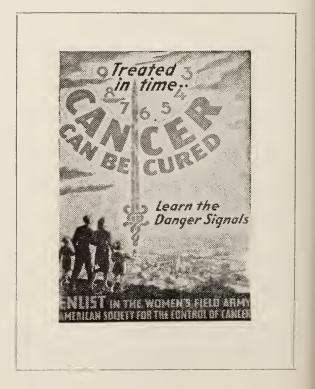
"Doctors recognize that food, fuel, clothing and shelter are even more important in the prevention of disease than immunization or periodical physical examination. The practice of preventive medicine is barely recognized by the Wagner-Murray-Dingell bill. An attempt to build security against sickness by providing more care after the patient becomes ill, rather than by overcoming the factors that lead to sickness, is illogical and unscientific. The health of the nation cannot be guaranteed by any formula which places the economics of medical service above the advancement of medical science and the quality of medical service.

"In the years that have passed since the Fedral Security Agency was established, its division for the study of medical care has come forward with only one proposal—a nation-wide system of compulsory sickness

insurance administered from Washington. In this period the medical profession and the people, as represented by the Congress of the United States, have repeatedly rejected that proposal and have gone ahead without much aid from the federal government to develop hundreds of plans and varying technics in an attempt to find a workable sloution for a wider distribution of medical care without the loss of the fundamental freedoms that are guaranteed by the Constitution. Without too much government interference the people are finding the answer. No doubt one of the most important steps next to be considered is the exact extent and method by which federal government may aid local and state governments and individual enterprise in extending medical service to those who are not otherwise able to secure it."

EXPECTATION OF LIFE

"The League of Nations Monthly Bulletin for December presents tabular data on the expectation of life at birth and at 1 year of age in over thirty countries," The Journal of the American Medical Association for March 18 says.



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AN UNUSUAL KIDNEY CALCIFICATION

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Physiologic calcification is the normal process concerned with the deposition of calcium salts in the development and formation of bone. Pathologic calcification includes the deposition or precipitation of calcium salts in those tissues or organs which ordinarily do not contain calcium deposits or concrements. Several types of pathologic calcification have been described, but extreme difficulty is encountered when we attempt to classify them from an etiologic or pathologic viewpoint.

Goldstein and Abeshouse classify pathologic calcification under two main headings: metastatic and non-metastatic, the distinguishing feature being the fact that in metastatic calcification the deposition of calcium salts presumably takes place in normal or uninjured tissue. In the non-metastatic type the calcification occurs in tissues or organs where localized pathologic changes have already occurred.

They further classify renal calcification into three distinct types:

- 1. Metastatic calcification of the kidney which occurs in those various bone diseases accompanied by hypercalcemia.
- 2. Non-metastatic calcification associated with a renal lesion which causes a decreased solubility of the calcium salts of the blood and tissue fluids, or results in the faulty or impaired excretion of calcium salts from the kidney.
- 3. Non-metastatic (dystrophic) calcification associated with a renal lesion in which the precipitation of calcium salts occurs in tissues presenting degenerative vascular or retrogressive changes.

Calcification in isolated areas of the kidney is not uncommon. Likewise calcification in areas of a kidney in the presence of tuberculosis of the kidney is relatively common. The case we wish to report does not fall in either of these classifications.

White female, age 41, married, husband living and well, mother of five children, all living and well, baby was nine years of age this month, March 1944. Menstrual history negative; nothing of interest in her family history.

Patient noticed pain in right upper quadrant during past hoe-time (May 1943); hoeing made this region very sore and seemed to cut her breath off. She was able to adjust herself to this condition until time to dig peanuts (September-October 1943), when this work aggravated this condition so that it became unbearable. If she took a deep breath she had a severe shooting pain in the right upper quadrant.

Patient consulted Dr. Ray Evers of Andalusia, in December 1943, and his physical examination showed a woman 5'-4" in height, weighing 111 pounds. Head examination was negative, except that her teeth needed repair and several of them were missing. Neck and chest negative. No enlargement of the heart and no murmurs heard. The abdomen showed rigidity on the right side, more pronounced in the upper quadrant. The lower pole of the right kidney could be palpated. External genitalia negative. Anus showed no tags and good sphincture control. Extremities negative. Reflexes present and active. After other diagnostic methods failed to throw light on the case, Dr. Evers made a flat KUB (fig. 1) which



Fig. 1. Flat KUB showing shadow at upper pole of right kidney.

showed the lower pole of the right kidney to be at the pelvic brim, with a shadow at the upper pole 3x5 cm., the long axis being along the direction of the twelfth rib. Left kidney normal in size and position.

Dr. Evers then referred the case to us for further urologic study. Cystoscopic examination of the bladder was negative, and No. 5 F. catheters were passed readily to each kidney pelvis meeting no ureteral obstruction. Urine was collected from the bladder and from each kidney. Kidney pelves were filled with pyelographic media and roentgenogram made (fig 2). Pyelograms were negative and a distinct boundary of 0.5 cm. could be seen between the shadow at the upper pole of the right kidney and the pelvic shadow on this side. A serial pyelogram of the right kidney was then made (fig. 3), and an excursion of 5 cm. from the Trendelenburg to upright position was evidenced. In the upright position a one cm. S-kink was present at the ureteropelvic junction, which we attributed to the weight of the mass causing the shadow at the upper pole pushing the kidney downward. The space between the pyelographic shadow and that of the mass at the upper pole of the kidney was evident in each of



Fig. 2. Double pyelogram. Note the kidney tissue between the shadow at the upper pole of the right kidney and the pyelographic shadow of the right kidney pelvis.



Fig. 3. Serial pyelogram. First in the prone position. Second, in the upright position, and the third in the Trendelenburg position. Note the S kink in the ureter just below the kidney pelvis in the upright position.



Fig. 4. Lateral pyelogram of right kidney showing shadow at the upper pole of the kidney and the kidney pelvis to be in the same plane.

the positions of the serial pyelogram, showing that there was no connection between the shadow at the upper pole and that of the kidney pelvis. Lateral pyelogram (fig. 4) shows the shadow at the upper pole of the right kidney to be in the same plane as the pyelographic shadow on this side.

Urinalysis of bladder urine as well as that from either kidney was negative. PSP test was 80% dye excreted in the first hour and 12% excreted in the second hour. Our preoperative diagnosis was either a calcified adrenal gland or a calcified cyst of the right kidney.

Patient was placed in position on the table and held there by the use of Ockerblad's devices for kidney surgery. The kidney was exposed through a hockey-stick incision extending from the mid-costovertebral angle, downward and outward to the junction of the mid-axillary line with the upper two-thirds and the lower third of the costo-iliac space. A hard mass was felt at the upper pole of the right kidney and this was densely adherent to the diaphragm, being freed with some difficulty. After freeing the above mass a normal looking kidney was delivered, the hard mass removed there-

from taking only a small amount of kidney tissue. The kidney was repaired as in heminephrectomy and anchored with ribbon-gut according to the method of Lowsley. The oozing from the diaphragmatic area was controlled by packs, and the wound was closed as in nephropexy. Recovery was uneventful. Pyelograms were made on the seventeenth postoperative day and were negative. The kidney was in position. Patient was allowed to go to her home on the nineteenth postoperative day.

Dr. I. Milton Wise decalcified this calculus, and found no definite membrane covering the mass to suggest a cystic wall, as found in the case of calcified cyst of the kidney reported by Kirwin. It is a question in our mind whether this was a calcified cyst of the kidney, or a subcapsular hematoma which had undergone calcification, similar to calcified thrombi which are sometimes found in the spleen, or perhaps the pathology was dependent upon the same pathogenesis as that of calcified fibroids.

303-4-5-6 Van Antwerp Bldg.

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Lowsley, O. S., and Kirwin, T. J.: Clinical Urology, Baltimore, Williams and Wilkins, 1940, vol. 2.

Stab Wounds of the Heart-Diagnosis in the usual case is not difficult if one is heart-wound conscious. A history of the patient having been stabbed in the chest with the finding of a wound in the region of the heart should immediately suggest the possibility of a wound of the pericardium and its contents. An obvious wound entering the pleural cavity should not preclude the consideration of an associated heart injury. Cardiac tamponade is evidenced by the triad, low arterial pressure (weak or absent pulse and blood pressure), high venous pressure (distended veins), and a quiet heart (distant sounds). Diminished pulsation, as observed by fluoroscopy, may be helpful in diagnosis. The degree of shock is often out of proportion to the amount of visible blood lost. In small wounds, as produced by a needle or ice pick, tamponade is often late in becoming evident. Fluoroscopy is especially helpful in such cases. Severe tamponade may be present without a wound entering the heart cavity. In such instances exploration is imperative. Dangers of long maintained tamponade are great, not only to the heart itself, but because of cerebral anoxemia.—Linder and Hodo, South. M. J., May '44.

STERILITY

STUDY WITH UTEROTUBAL INSUFFLATION APPARATUS A FEW MALE FAULTS MENTIONED

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In prefacing a study of sterility with uterotubal insufflation apparatus, reference should be made to the part the male plays in the general picture. Occasionally the outcome is determined by him to such degree that points relating to him should be considered before beginning a discussion of the use of the Rubin test on the female.

Complete diagnostic studies show that the average childless couple presents 4.79 factors, each of which diminishes to some extent their capacity for conception. But such factors of absolute sterility, as it may be called, are found in only 30% of clinical cases. Seventy per cent of couples who apply for relief of childlessness show no single condition alone that would account for their difficulty. They do show, without exception, a group of causative factors of which each one lowers their fertility to some extent and of which the sum total depresses their fertility below the threshold of conception. The multiple factors discussed are partly genital and partly constitutional.

Meaker¹ and associates found that among the couples who consult them only about 10% of the husbands and 5% of the wives are free from all objectively demonstrable evidence of infertility. For the purpose of quantitative estimation, his clinic has used for ten years a measurement which he calls the uterine index. This is an expression of the ratio between the length of the uterine body and the length of the cervix; the relation is 0.25 in infantile cases and 0.75 or more in cases in which normal development has been attained.

In the more obscure detail in every case of sterility is the question of effective ovulation. No method of examination has ever been sufficient to determine whether or not the ovaries actually liberate mature and normal eggs. Menstruation obviously proves nothing in this respect; some women flow regularly without complete follicular activ-

ity in their ovaries, while others conceive even during times of amenorrhea.

Hotchkiss' method of sperm analysis and of evaluation of therapeutic procedures have contributed a very great deal in the study of sterility. From biblical times until the present century the wife has borne the burden of blame for failure to produce offspring. Until twenty years ago no serious studies of male fertility had been undertaken. It is generally agreed now that the husband bears the chief or partial responsibility in approximately one-fourth of the involuntary barren marriages and accordingly his examination is now regarded to be as important as that of his wife.

In the study of infertility it is not only to detect absolute sterility but rather to arrive at an estimation of the relative fertility of each partner, each to be considered separately, and together as a marital unit. The power of production depends on the sum total of the details of the germ plasm, the physical status of the subjects and their ability to have coitus. If the combination of these factors is below the threshold level for fertility, no issue will result from the marriage even though each constituent may possess varying positive degrees of fecundity.

In making his studies he used a routine somewhat as follows:

- (1) The average volume of the ejaculate is from 3 to 4 cc. Variations from 1 to 2 drops to 10 cc. are encountered. Specimens of less than 0.5 cc. in amount fail to produce an adequate seminal pool, which ordinarily provides a medium for the survival and protection of the sensitive sperm.
- (2) The appearance and viscosity of the fresh ejaculate are entirely different from that one-half hour old. Self liquefaction is then completed much to the benefit of motility of the sperm. If the eventual motility is of a good grade it is likely that variations

^{1.} Meaker, S. R.: Gynecologic Aspect of Human Sterility, J. A. M. A. 107: 1847-1849 (December 5) 1936.

^{2.} Hotchkiss, R. S.: Methods in Sperm Analysis and Evaluation of Therapeutic Procedures, J. A. M. A. 107: 1849-1851 (December 5) 1936.

in viscosity have little or no clinical significance.

- (3) The pH of a seminal specimen usually falls within the range of from 7.7 to 8.5. If no motility is found it is of particular importance to obtain a pH determination, for in rare instances a shift to a low reading of 6.0 and 6.2 has been found to be associated with necrospermia.
- (4) It is extremely difficult to give a word picture of the description of the motility of the spermatozoa. The type of activity, the number crossing a microscopic field and the percentage of inactive cells are all details of interest. Interval examinations are made to determine the viability of the sperm, which is usually about 24 hours at room temperature.
- (5) The number of spermatozoa is determined by the use of the usual equipment for counting blood cells. A sodium bicarbonate-phenol solution* is used as the diluent; it destroys motility to permit an accurate estimation of the cells present in each cubic centimeter and in the total ejaculate. The average fertile male will produce from 100,-000,000 to 150,000,000 spermatozoa per cubic centimeter or from 400,000,000 to 500,000,000 in the total ejaculate. One group of eminent authorities states that in their experience pregnancy does not occur if the cell count is below 60,000,000 per cubic centimeter. Hotchkiss has on record a few exceptions to this rule and believes the more reliable and consistent cell counts have been on the basis of cells present in the total volume of the ejaculate rather than in units of cubic centimeters. The bulk of semen undoubtedly originates in the prostate and seminal vesicles, and variations in the amounts of these secretions will accordingly dilute or concentrate the specimen. In the former instances an apparent deficiency may be inferred if the cell count is expressed in cubic centimeters, whereas, the number of sperm in the total ejaculate may prove to be normal. Here, as elsewhere, dogmatic rules are dangerous and it is unlikely that any figure can be decided on as a fixed minimum. When fewer spermatozoa are found, the chance of fertilization is mathematically and proportionately reduced until a theoretical point is reached at which impregnation is most

unlikely. A simile may be found by comparison with the laws of chance as it affects a hunter shooting at a difficult target with a shotgun; his chances of hitting the object are enormously reduced if the shell is loaded with ten shot rather than with 125 of the same size and weight.

(6) The examiner must be familiar with the variations in the morphology of the spermatozoa just as the hematologist is conversant with blood cytology. A stained smear is prepared and the percentage of atypical cells is established by count. If some of the more complicated stains are not available, the Gram stain gives a fair visualization of the cell structure after proper fixation. Moench³ has evidence that leads him to believe that if more than 20 per cent of the cells have abnormal form sterility or miscarriage will result. In an incomplete but rather large group of cases of proved fertility now under study, he has yet to find an instance of a normal pregnancy attributable to a seminal specimen with excessively large numbers of abnormal spermatozoa, yet this condition is not infrequently encountered in cases of disturbed fertility. Veterinarians are familiar with this breeding defect in male animals and have means of offering proof of male faults that cannot be obtained in human studies. The test of time leaves the future to determine the actual value of this important theory, as information is compiled to substantiate or refute the current principles of sperm morphology.

3. Moench, G. L.: Sperm Morphology as a Means of Identification of the Individual, M. Times & Long Island M. J. 62: 33-35 (February) 1934.

Moench, G. L.: Investigation of the Relation of Sperm Morphology to Fertility by Means of Microdissection, Am. J. Obst. & Gynec. 18: 53-56 (July) 1929.

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Moench, G. L., and Holt, H.: Number of Spermatozoa in Its Relation to Fertility, Urol. & Cutan. Rev. 33: 814 (December) 1929.

Moench, G. L., and Holt, H.: Sperm Morphology in Relation to Fertility, Am. J. Obst. & Gynec. 22: 199-210 (August) 1931.

One % phenol, 4% sodium bicarbonate, 95% distilled water.

By determining the condition of the male as to the amount of ejaculate, the number of spermatozoa and activity of such cases, they are treated with the gonadotropic factor using 200 units for the male from pregnancy urine, daily for five weeks. At the end of that time his ejaculate consisted of one drop of semen containing from 6 to 8 normal spermatozoa per high power field, subsequent pregnancy taking place.

A competent investigation of marital infertility must include a careful examination of both partners. The relative fertility of both husband and wife must be established to determine the grade of fertility of the marriage. Wide variations exist in the fertility of men as determined by semen analysis.

The semen constitutes the chief index of male fertility. The proper ejaculation of its fertilizing power is dependent on the complete analysis of the various factors and constituents of the specimen.

With Hagner's⁴ technique, and operation in cases of male sterility in which the fault was within the occlusion of the epididymis or vas deferens, he has gotten results.

UTEROTUBAL INSUFFLATION

The study of sterility in women is of such magnitude that in this presentation I shall attempt to discuss only the one phase which pertains to the patency or occlusion of the fallopian tubes, with a brief discussion of the anatomy, histology and physiology of same.

All through the works of Corner⁵ and his associates a new understanding of the physiology of the tubes was obtained. They found there was a contraction rate of isolated strips of the tube in working on a specimen of a sow's oviducts. The question arose as to whether there was a correlation between the cycle changes in contraction rate in fallopian tubes and those of the Rubin test as determined by uterotubal insufflation in the human being.

Anderson⁶ examined a sow's tubes in respect to their histology and physiology, and demonstrated there is in estrus an hyper-

trophy of the villi at the tubo-uterine junction, and the size and position of the villi themselves are such in the event of pressure in the direction of the uterus they may be shoved back over the tubal opening so as to close it, acting as a one-way valve. He found the pressure necessary to force normal salt solution through the tubo-uterine junction during estrus was on an average of over 200 mm. Hg.

Whitelaw used Rubin's kymographic records in comparing the interestrus curve of peruterine insufflation and his records obtained from experimental use on a sow's oviducts were very similar to Rubin's clinical record. There was a decided difference in the amount of pressure necessary to insufflate taken at the different periods of the menstrual cycle. On the third to the fifth day of the cycle, fluctuations began in most cases almost immediately after the initial rise, which was somewhat lower than at estrus, being around 20 mm. Hg. Contractions are regular and are between 5 to 9 per minute. The pressure changes are slower and higher, an average of from 5 to 9 per minute.

Strictures of the fallopian tubes may be slight or almost occlusive. The passing of bougies is out of the question unless laparotomy is performed. An apparatus has been perfected which supplies and regulates the flow of carbon dioxide combined in a syphonmeter (volumeter), a manometer and kymograph upon which the pressure reached during the insufflation is recorded.

Normal tubes allow the carbon dioxide to pass through freely under relatively low pressure, and oscillations are observed as shown on the kymograph due to rhythmic contractions of the fallopian tubes. They show only slight variation in frequency per minute in the postmenstrual interval when the test is most suitably carried out. If the tubes are sealed the pressure oscillations are absent. As a rule, sealed tubes can tolerate a pressure of 200 mm. Hg. which has been selected as the high limit of safety in which the tube may be subjected during insufflation. High grade strictures have almost the same significance as complete closure of the In very rare exceptions (with or

^{4.} Hagner, F. R.: Operative Treatment of Sterility in the Male, J. A. M. A. 107: 1851-1854 (December 5) 1936.

^{5.} Corner, G. W.: Internal Migration of the Ovum, Bull. Johns Hopkins Hosp. 32: 78 (March)

^{6.} Anderson.

^{7.} Whitelaw, M. J.: Tubal Contractions in Relation to Estrus Cycle as Determined by Uterotubal Insufflation, Am. J. Obst. & Gynec. 25: 475-484 (April) 1933.

without the aid of insufflation or lipiodol injection) one may succeed in surmounting the difficulty and pregnancy take place.

In case of strictures the rise of pressure is more curved. The descent is more gradual and there is apt to be complete absence of or atypical oscillations. In the absence of oscillations, indicating loss of tubal contractions, or in high grade strictures the initial pressure rise is well over a 100, most often between 150 and 200 mm. Hg. If the tube is bound down by firm adhesions on all sides so that its motions are impaired the rhythmic contractions are not seen, although the pressure levels may not exceed the normal.

Stricture of the tube may be located in the uterotubal junction, at the isthmus, and at points along the ampulla and fimbria. In some cases they are bilateral and symmetrical and in other asymmetric or unilateral.

- (a) In bilateral strictures at the uterotubal junction, distension pain is present, and, as a rule, mild, being referred to the midline in the suprasymphyseal area. There is no lateral radiation of pain.
- (b) In bilateral strictures at the isthmus, pain is somewhat lateral, midline pain also being present and prominent. The nearer the ampulla is to the site of obstruction the more marked is the pain reaction.
- (c) In bilateral strictures of the ampulla, pain radiates well to the sides. The nearer the fimbria is to the site of obstruction, the greater the tendency for pain distribution. Pain sometimes radiates to the lumbar region and sometimes down the thigh.

When pain is present on one side only and there are good fluctuations and a positive subprenic pneumoperitoneum, oscillation may determine the normal tube. The bubbles in the latter instance are intermittent and correspond with the relaxation phase. In the presence of tubal stenosis the gas escapes from the fimbriated end in a continuous stream which is only mildly influenced if at all by the very much impaired contractions of the tubes. In tubal stenosis the pain is due to the distension for the proximal portion of the tube may be maintained throughout the insufflation. In most cases where the pain is present pressure is above 110 mm. Hg. and is relieved when the pressure drops 30 mm. Hg. or more. In complete tubal closure this may be corroborated by the use of lipiodol injection, but as a rule, the CO₂ will pass through in cases where the lipiodol will fail to enter.

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Rubin,⁸ in a study of the status of residual tube following ectopic pregnancy, noted that those who have had a tubal gestation exhibit a slightly lower fertility than the average woman.

In studying the pressure records it was found that in general where they were high, that is, above 150 mm. Hg. on one or more tests, though some degree of patency was present, the succeeding pregnancy was apt to be another ectopic. On the other hand when the pressures were lower, more approximating from 100 to 110 mm. Hg. the future pregnancy was more likely to be intrauterine. When the pressure ranged between 120 and 150 mm. Hg., the patient was likely to develop an extrauterine or intrauterine gravidity. Intrauterine pregnancy occurs with sufficient frequency after an operation for tubal pregnancy to encourage conservation of the residual tube. It occurs in spite of impairment in tubal patency. In Stein's study, he found the use of antispasmodics, such as advised by Meaker, to be of great value in those cases of spastic obstruction of the tube. Guttmacher¹⁰ calls attention to the two methods to determine patency of a woman's fallopian tubes.

The first, such as invented by Dr. Rubin, is based on the fact that normally there is an uninterrupted open passage leading through the vagina into the uterus then through the tubes into the abdomen. "Air blown into the vagina in the lower end of the passage will come out the upper end in the abdomen." When conditions are normal the air passes through with from 80 to 120 mm. Hg. pressure; when the tubes are closed the pressure continues to rise. If the fallopian tubes are obstructed, the escaping air makes a whistling noise which can be detected with the aid of a stethescope. By noting whether the air whistles through both sides we can determine if the right and

10. Guttmacher, A. F.: Life in the Making,

Part V, Sterility and Fertility.

^{8.} Rubin, I. C.: Status of Residual Tube Following Ectopic Pregnancy in Relation to Sterility and Further Pregnancy; Analysis of 90 Cases Examined by Uterotubal Insufflation, Am. J. Obst. & Gynec. 28: 698-706 (November) 1934.

^{9.} Stein, I. F., and Leventhal, M. L.: Infertility and Sterility; Analytic Study of 300 Couples, J. A. M. A. 98: 621-628 (February 20) 1932.

left tubes are both open. The second method is to inject into the lower end of the uterus a liquid chemical which casts a shadow when x-rayed. Kotz¹¹ states that Rubin deserves credit for having made the greatest single contribution not only to the diagnosis out also to the treatment of female sterility, for one can within a very few minutes determine scientifically and accurately the patency or nonpatency of the fallopian tubes.

Sutton¹² quotes the indications for peruterine insufflation given by Rubin as follows:

(1) Primary sterility in which contributing causes, including those for which the husband might be responsible, have been eliminated and some operative procedure is contemplated.

(2) Primary sterility in which the patient is known to have had a gonorrheal pelvic infection soon after marriage and is at the time free from pelvic symptoms and signs

signs.

(3) Sterility following a pelvic exudate or abscess complicating a puerperium or abortion, with or without history of operation, in which resolution has apparently taken place.

(4) Primary sterility in which the patient has had peritonitis of appendiceal origin to exclude occlusion by tubal adhesions.

(5) One child sterility without a definite history of pelvic infection.

- (6) After conservative surgery on the tubes (salpingostomy) to determine the success of the operation which was calculated to effect an opening of occluded tubes.
- (7) After unilateral ectopic pregnancy to determine the patency of the remaining tube.
- (8) After sterilization by tubal ligation to test the patency of the tied or severed tube.
- (9) After multiple myomectomies to make certain that at least the uterine ostium of the tube has been left intact.

Bear, 13 in discussing the apparatus as designed by Rubin, stated it is important to

test out the rate of flow before the actual test is made. Exactly 15 seconds are required to raise the mercury to 100 mm. Hg., and when this occurs there is a certain degree of uniformity for the passage of gas into the tubes. In normal (open) tubes no more than 20 to 30 mm. Hg. are required to keep up the flow of gas. As a safe rule to fellow, it is best not to exceed a pressure of 200 mg. Hg. in any given case.

Per-uterine insufflation seems to exert a therapeutic influence as manifested in several ways; by establishing patency of the generative tract; the "pinhole" os associated with a hypo-developed uterus may be partially dilated by the introduction of the cannula which renders it more patulous for the reception of semen; it separates minute adhesions of the folds of tubal mucosa; tends to straighten tubal tortuosities, especially the infantile type; may dislodge thickened mucus from a narrow to a wider portion of the tube, and may cause separation of small adhesions at the fimbriated extremity.

Rubin¹⁴ in discussing the technique of uterotubal insufflation apparatus, says that he has found the time-ratio flow of 15 seconds to raise the mercury column to 100 mm. the most favorable rate of introduction of the gas into the uterus. It may be slower, that is, it may require a longer time to raise the mercury column to 100 mm., that is, 20 to 30 seconds, but it should never be less than 15 seconds. The uniform rate flow of 15 seconds to 100 mm. Hg. serves as a standard of comparison when several insufflations are necessary on the same patient.

For the average patient two pulsations suffice to establish a subphrenic pneumoperitoneum and its associated clinical manifestations. Each pulsation represents 30 to 40 cc. In obese patients, from three to five pulsations may be necessary. The quantity is seldom in excess of 200 cc. If fluoroscopic examination is to be made to determine the gas under the diaphragm, it is to be done immediately after the injection. If the gas has gone through the tubes in an appreciable amount, there will be a pain usually re-

^{11.} Kotz, J.: Diagnosis and Treatment of Female Sterility, M. Ann. District of Columbia 3: 185-190 (July) 1934.

^{12.} Sutton, M. G.: Rubin's Insufflation Text. M. J. Australia 2: 674-680 (November 12) 1927.

^{13.} Bear, J.: Discussion of Rubin Test and Hysterosalpingography in Sterility, Virginia M. Monthly 62: 79-83 (May) 1935.

^{14.} Rubin, I. C.: Uterotubal Insufflation Followed by Pregnancy in 205 Cases out of a Series of 2000 Cases of Infertility; Analysis of Factors Involved with Special Reference to Therapeutic Application of Method, Am. J. Obst. & Gynec. 17: 484-502 (April) 1929.

ferred to one or both shoulders when the patient is sitting in an upright position.

In the interpretation of data of normal tubes the mercury rises to 40, 60, 80, or even 100 mm. and drops 10 to 40 points and fluctuates several times per minute until the cannula is withdrawn. If there is any obstruction or spasm of the tube, the pressure will go well beyond 100, 140, 160 or possibly 200 before CO., passes the obstructed point, after which there will be a drop.

The most favorable time to carry out peruterine tubal insufflation is from the 4th to the 7th day after the cessation of the menstrual flow. During this time the endometrium is flat, the uterine ostia of the tubes are not obstructed by the swollen endometrium obtaining in the premenstrual phase, and there is less apt to be bleeding. It is not safe to go beyond the 11th or 12th day of a menstrual cycle to insufflate the tube if coitus has occurred a short time previously. Ovulation taking place from 12 to 16 days, to force the spermatozoa through might cause an ectopic pregnancy. If unable to get the CO, through on the first test, further insufflations should be done at monthly intervals, even to the 4th, 5th or 6th treatment before giving up as having a hopeless tubal obstruction.

Due to ability to open the tubes that are at least partially obstructed, this method of per-uterine tubal insufflation serves as a therapeutic as well as a diagnostic procedure. In the past it has been a generally accepted rule not to consider a woman in the sterile class until at least 3 to 5 years had elapsed after marriage without her conceiving. I feel that this is a long time for these women to wait, if they are desirous of having children and use normal methods in hope of conceiving, before being checked to see if the tubes are normal or if there are any factors about the husband which would prevent conception. Matthew Duncan¹⁵ stated as far back as 1866 that on the average the first child is born about 16 months after marriage. Ferguson¹⁶ stated that 25% of his last 100 patients, when figured on a basis of the ones through whose tubes he was able to get air to pass, became pregnant,

15. Duncan, Mathew: Fecundity, Fertility and

and out of the entire 400 patients figured on the same basis, 15% became pregnant. These pregnancies occurred in women who had been barren from 1 to 15 years without a known cause.

According to R. L. Dickinson¹⁷ an attempt to catheterize the fallopian tubes was made by W. Tyler Smith as far back as 1849. This has since been abandoned.

With the endometroscopy process some progress has been made in the visualization of the uterotubal ostia and study of the walls of the uterine cavity, but the same degree of progress has not been made in this study as has with the cystoscope in the study of the bladder. Rubin has done considerable work in this regard as well as with uterotubal insufflation. Using CO, to dilate, he has gotten very satisfactory results. Insufflation in uteroscopy is to be absolutely forbidden in the presence of inflammation.

Normal tubes exhibit peristaltic motions which vary with the phase of the menstrual. that is, ovarian cycle. From three to four peristaltic movements per minute in the interval stage to several more impulses in the ovulation or mid-intermenstrual phase were noted in experiments with strips of tubes. In normal cases patients do not feel the slightest pain reactions referable to the tubes themselves. At most they complain of a sense of discomfort in the suprasymphyseal area referable to the uterus which is momentarily distended.

With the aid of the kymograph various degrees and types of tubal abnormality may be diagnosed. The present apparatus employed to test the patency includes a kymograph in addition to a quantimeter and manometer. In normal patency the pressure rises to any point well below 100, drops sharply 10 to 30 mm. Hg. and rises that many millimeters or more, or less, falling again successively three to four times per minute as a rule in the postmenstrual phase when the method is most properly used. The initial pressure rise depends upon three factors: (1) the rate of speed of the gas flow; (2) the muscular resistance or tonicity of uterine wall; and (3) the uterotubal sphincter. As the rate of flow can be a constant factor (say in the ratio of thirty sec-

Sterility, Edinburg, 1866.
16. Ferguson, R. T.: Tubal Patency Test; Detailed Report of 400 Cases, South. Med. & Surg. 95: 429-431 (August) 1933.

^{17.} Dickinson, R. L.: Surgery, Gynecology and Obstetrics, 1916.

onds for each siphon pulsation of the automatic volumeter employed in the apparatus) the uterine wall tonicity and sphincter tone can be readily determined in terms of mm. Hg.

When a permeable stricture is present, the initial pressure rises as a rule to more than 100 mm. Hg. and instead of dropping sharply and exhibiting oscillations the kymographic tracing shows definite deviations. The descent of the curve from the initial drop is more gradual. It may exhibit slight oscillations at first or none at all; or it may, upon reaching a much lower level, maintain a more or less horizontal line. In the presence of spasm the initial rise of pressure is high, up to 150 mm. Hg. or more, when a sudden drop is noted varying between 50 to 100 or sometimes more mm. Hg. in depth, after which normally appearing oscillations come into evidence. A combination of spasm with stricture can occur but this is not very frequent.

The depth of the subphrenic pneumoperitoneum, other things being equal, is a practical guide as to the type of patency, that is, the degree of stenosis present. If, for example, 120 cc. of gas will produce an immediate subphrenic pneumoperitoneum represented by a meniscus under the diaphragm of one to one and one-half inches in a woman five feet, four inches, weighing one hundred thirty pounds, the same amount of gas in a person of equal height and weight whose tubes are strictured will produce a meniscus approximately onefourth to one-half in depth.

The heavy stethoscope devised by M. Leff is serviceable in listening or auscultating over the abdomen as the CO₂ passes through. In auscultating, should there be any doubt as to the CO₂ or gas passing through, if the patient will change position this gas under the right half of the diaphragm will not be so mistaken. By auscultating one can get a bruit most pronounced as a rule on the side which is normal or patent. This bruit is intermittent in character in normal tubes, the silent pauses being synchronous with the rises of pressure which are in turn synchronous with the contraction phase of the peristalsis. With each relaxation the bubbles are propelled through the fimbria producing the gurgling sound on the side from which the gas escapes. If the sound

is more continuous however on one side, it indicates a permeable stricture.

When normal peristalsis is exhibited by the tubes during insufflation and the initial pressure is below 100 mm. Hg., the prognosis as far as pregnancy is concerned is good, that is, provided all other factors possibly entering into the cause of the sterility have been satisfactorily accounted for. If the patient is quite uncomfortable on arising after uterotubal insufflation has been done, CO₂ being in the upper abdomen against the diaphragm and causing irritation of the phrenic nerve, if her head is lowered and the pelvis elevated she will be relieved in a very short time.

In a study with lipiodol injection of the tubes in comparison with per-uterine insufflation with CO₂, it has been shown that the findings by study with use of CO₂ insufflation have compared very closely to the findings by injecting the tubes with lipiodol. The gas is rapidly absorbed and leaves no trace in the peritoneal cavity. It is practically harmless, and the slight discomfort is over within a few minutes. It is an office procedure when carried out carefully. Its diagnostic value with respect to tubal closure is equal to lipiodol and the test can be repeated at stated intervals with greatest simplicity.

The intramural portion of the fallopian tube in the living pursues a straight course as found in anatomic specimens. That the fallopian tubes, which are histologically not unlike the intestinal tube, are capable of muscular contractions has long been assumed but never until very recently has this physiologic phenomenon been actually demonstrated. Guthmann¹⁸ was the first to express the opinion that the manometric fluctuations were due to tubal peristalsis. His reasons were based on the well-known observation that when the tubes are closed fluctuation on the manometer are not observed. When human fallopian tubes are ligated or clamped off at any point from the uterine insertion of the fimbria, no fluctuations result.

Clinical tubal insufflation was employed

^{18.} Guthmann, H.: Modification of Rubin's Test for Patency of Tubes, Monatschr. f. Geburtsh. 7. Gynak. 59: 10-16 (September) 1922.

by Rubin¹⁹ to determine a possible secondary effect upon tubal contractions during different phases of the ovarian cycle. Fiftynine (59) women were insufflated on the 10th to the 16th day of the cycle, counting from first day of the preceding menses. The type of contractions was compared to an equal number of patients who were insufflated from the 7th to the 10th day of the cycle and an equal number from the 16th to the 28th day of the cycle. The uterotubal tonicity, as measured by the initial rise of pressure at which the gas passes the uterine junction into the tubes, was decidedly higher in the group insufflated on the tenth to the 16th day of the cycle and the rate and depth of tubal contractions were also great-

The therapeutic effect of insufflation on dysmenorrhea, first reported by Peterson and Cron,²⁰ was studied in 57 cases of sterility. Twenty patients were cured of their dysmenorrhea and 18 were improved for as long a time as they were under observation; 19 patients were unimproved. Eleven patients reported relief for a year or longer, one for seven years. This showed an improvement of dysmenorrhea following insufflation in 66.6% of 57 patients.

When the gas enters the peritoneal cavity, pressure may be recorded on the kymographic record by the patient bearing down, coughing, sneezing, etc. Pain is of great importance in diagnosing the degree of patency. In the normal case the insufflation is unattended by pain. The patient experiences in the most a sense of discomfort characteristic of the menstrual molimen referred to the midline (occupied by the uterus). The momentary sense of discomfort is occasioned by the introduction of the uterine cannula. In general, the diagnostic significance of pain during the uterotubal insufflation may be summarized as follows: (1) midline pain; (2) unilateral pain; (3) bilateral pain; (4) epigastric pain; and (5) shoulder pain.

The tubal function in practically all animals is heightened at the time of ovulation

and is less marked at other phases of the menstrual cycle. The uterine mucosa is practically never completely at rest at any phase of the cycle. Immediately after the cessation of the flow there is already evidence of epithelial proliferation and the process of regeneration may be said to be superimposed on that of desquamation. Every day thereafter the superficial portion of the endometrium takes on an increasing thickness so that on the 5th day it is three times as thick as the basal layer, and on the 8th day it is 4 to 5 times as thick.

The endometrial glands are proliferating in the postmenstrual interval but they are not yet producing secretion, a process which begins in the mid-intermenstrual period, and is most conspicuous just before the menses. When the test is performed 4 or 5 days after cessation of the menses, the uterine cannula takes up practically no mucous secretion in its small openings at the tip, thus allowing freer passage of the gas and yielding truer intrauterine and intratubal pressure rates. By choosing the postmenstrual phase, one eliminates the possibility of displacing an impregnated ovum, which may have been discharged into the fallopian

By insufflation of the uterus in the postmenstrual interval the risk of carrying infection is reduced. Also at this period there would be less danger in the possible displacement of endometrial tissue, this being a far fetched possibility which might cause an endometriosis of the peritoneum. endometrium though thin offers complete protection against the escape of foreign material from the uterine cavity into the uterine veins.

Carbon dioxide is the best medium for insufflation of any of the gases that have been used up to this date, due to the fact it is absorbed more rapidly.

The machine with kymograph attached is a decided improvement over others used in the past in that we have a permanent record of our reading, and, further, are better able to judge the amount of pressure at the time insufflation is being done.

Peterson and Cron²¹ and Rongy²² were among the first to stress the therapeutic as-

^{19.} Rubin, I. C.: Twelve Years' Experience with Uterotubal Insufflation; Diagnostic and Therapeutic, Am. J. Obst. & Gynec. 24: 561-573 (October) 1932.

^{20.} Peterson, R., and Cron, R. S.: Therapeutic Value of Transuterine Gas Inflation, J. A. M. A. 81: 980-984 (September 22) 1923.

^{22.} Rongy, A. J.: Primary Sterility, Am. J. Obst. & Gynec. 5: 631-637 (June) 1923.

pects of uterotubal insufflation, and with this as a stimulus many others have taken up this method as a therapeutic means of treating sterility cases as well as for its diagnostic value.

CONCLUSIONS

- 1. The great majority of cases show more than one factor or defects present. According to Meaker there is an average of 4.79 factors. Only 10% of husbands and 5% of wives are free of evidence of infertility.
- 2. The semen study shows an average ejaculate of 3 to 4 cc. ranging from 1 to 2 drops to 10 cc. Specimens of less than 0.5 cc. in amount fail to produce an adequate seminal pool.
- 3. From the 4th to the 7th day of the cycle is the best time to do Rubin's test. If the tubes are sealed the pressure oscillations are absent in the tubes. It is unsafe to go be-

yond 200 mm. Hg. When tubes are open, CO₂ passes through with intermittent contractions and relaxation, and with a bubbling noise. Normally not more than 60 to 100 mm. Hg. should be necessary.

- 4. In case of ectopic pregnancy, if the couple is anxious for children, conservatism might be practiced since, in some instances, the residual tube enables pregnancy to take place.
- 5. In doing a Rubin test about 15 seconds should elapse during the time required to raise the pressure to 100 mm. Hg. The volumeter on machine represents 30 to 40 cc. of CO₂. If unable to get CO₂ through on first attempt, repeat at monthly intervals 2, 3, 4, 5 or 6 times. Injection of tubes with lipiodol compares favorably with per-uterine insufflation with CO₂, although the latter can be used more frequently with less disturbance.

EARLY INFANT CARE

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This paper was originally designed as simply an instruction sheet to remind mothers of the suggestions given them before taking their new babies home from the hospital. The prospect of being responsible for the welfare of a new baby, particularly if he happens to be the first one, fills the mother with a tremendous amount of awe. Until she gets well into the routine, she tends to consider the task much greater than it actually is. In the beginning, details which later become second nature weigh heavily upon her mind.

This being the case, I have found it wise to complement my verbal instructions with a copy of written ones. The remainder of this paper is addressed to the new mother.

I am sure that woman reaches the highest pinnacle of achievement when she becomes a mother. Her second great, and possibly more difficult, task is to bring her baby up in the way he ought to go. It is a great challenge to be looked upon with eagerness and pleasure. In order to help you become adjusted to the new duties of motherhood, I have written some suggestions which I hope you will find useful.

If it is possible the baby should have a room of his own in which to sleep and spend most of his time. He is somewhat sensitive to light and quite easily startled by sound. The temperature of his room should be kept between 65° and 75°. It is convenient to have a thermometer on the wall near his bed so that the temperature change may be noted occasionally.

The baby should be fed at regular intervals, usually four hours, occasionally three. In daytime he should be waked for his feedings, but after 10 o'clock at night he should be allowed to sleep as long as he will and be fed only when he wakes. normal baby tends to sleep an increasing period so that by the time he is three months old he usually will sleep from 10 P. M. to 6 A. M. The baby should be back on schedule by 10 o'clock each morning. For instance, if he has nursed at 4 A. M. he should be nursed at 7 A. M. and again at 10 A. M. If the baby is nursing the breast the mother should be sitting upright or lying with her shoulders raised. The nipples should be gently cleansed with sterile water and pledgets of cotton before and after nurs-

ing. If the baby is taking a formula, always be sure that the holes in the rubber nipple are large enough so that when the bottle is turned upside down the milk drips and continues to drip freely. If the baby has been crying vigorously for several minutes, an attempt should be made to "burp" him before nursing. If he nurses very rapidly he should be stopped after five minutes and "burped" again. He should always be "burped" before lying down after he has finished. Under no circumstances ever give the baby the bottle while he is lying down. Such a procedure encourages vomiting and is apt to introduce bacteria through the eustachean tubes into the middle ears and cause otitis media (abscessed ears). Give the baby as much milk as he will take in 15 to 20 minutes. Give boiled water between at least alternate feedings.

When the baby is 2 weeks old he should be started on cod liver oil concentrate, a prescription for which will be given. This is best administered about 8 A. M. and 4 P. M. by pinching the lips and dropping one drop on the tip of the tongue or inside the lower lip morning and afternoon. This dose should be increased by one drop each time until the baby is getting 5 drops morning and afternoon. By the 3rd month the entire 10 drops can be given at one time—8 A. M. Cod liver oil should always be given directly into the mouth and never put into orange juice or any other kind of liquid. If given directly the baby soon learns to like it, but if given in orange juice he dislikes both oil and juice. The breast-fed baby should be started on orange juice at 6 weeks according to the schedule given. This should be administered at 8 A. M. before-not after -cod liver oil. Formula babies start orange juice at 2 weeks.

It is to be expected that the breast-fed baby during the first 2 or 3 weeks of life may have a small stool stain each time the diaper is changed. If the baby has six or more fair-sized liquid stools daily he is apt to have intestinal cramps (colic). Advice should be sought if this occurs. The formula baby usually has one or two stools daily. He may normally have four with no discomfort provided they are not liquid. Because certain nerve tracts of an infant are incompletely developed and because the rectal spincter is usually quite tight a rather

strong stimulus is sometimes required before a stool will pass. If the stool is soft this should cause no concern. A glycerin or soap suppository should be inserted after feeding to get a movement. If the suppository is required daily for some weeks, soap rather than glycerin should be used. A suppository should be inserted after the 10 A. M. feeding and the baby placed on the pot in the mother's arms. After some days the stimulus of the pot may be sufficient and the suppository omitted.

Never allow anyone to massage, apply heat, ice or ointment to the baby's breasts. Enlarged breasts in a newborn are a normal phenomenon and practically always reduce themselves unless they are molested, in which case they may abscess. No attempt should be made to cleanse the mouth or tongue with a swab or Q-tip lest one break the delicate mucous membrane and thereby encourage the development of infection.

Under no circumstances should a baby be given cathartics (castor oil. milk of magnesia, castoria) or paregoric, unless the doctor orders. Administering these drugs is the easiest way I know to make a well baby ill.

Colic is sometimes due to hunger and improper type of feeding, but is almost always caused by too frequent feeding (that is oftener than 3 hours), by allowing the baby to nurse for longer than 20 minutes and thus swallow much air, or by diarrhea. If he is fed the right kind of food at proper intervals in the right manner and if he has no constipation or diarrhea, he will practically never have colic.

Too much nervous tension on the part of the mother will be reflected in the behavior of the baby. A normal, properly fed infant in a calm household causes little disturbance. He will usually cry for several minutes before each nursing. This is a good thing because it allows him to become fully awake and hungry. Beginning at about one month of age the baby will stay awake from about 3 P. M. to 9 P. M. When he is a month old he will cry much of this time. It is not because he is ill; rather it is a part of his social development. He is tired of merely eating and sleeping 24 hours daily and is coming to demand a little more attention from the members of the household. When he is three months old, he will still stay awake much of this 3 to 9 P. M. interval

but will cry much less. The baby craves love and affection. It is wise to play with him briefly each time he is nursed and also to choose some period during the day (after the 6 P. M. nursing, when the father is at home, is usually the best time) when he may be played with freely for an hour or so.

After one month of age when the weather is favorable he may be taken for a brief stroll in the afternoon. Except for the times mentioned above, the baby should be kept in the crib. Do not be afraid to let him cry. If he is not hungry, uncomfortable, mishandled, or ill he will trouble you little with his crying. If you pick him up each time he starts to cry, he will cry most of the time. The baby is usually fretful the first night at home, but if left alone undisturbed soon adjusts himself.

We should check the baby in the office at one month of age.

THE HEALTH DEPARTMENT AND THE GENERAL PRACTITIONER

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This paper is intended to explain the activities, purposes and policies of an agency to its true sponsors or board of directors. It is not intended to criticize any lack of cooperation or understanding on the part of either the Health Department or its sponsoring physicians.

First, let me give a brief resume' of the organization directing public health activities. The State Board of Health, which is selected from the ranks of the medical men of the State, governs the policies and sponsors certain regulations through the State Health Department. In turn, the respective counties have a-like organization embodied in the County Health Department and its advisory Board of Censors which is selected by the local County Medical Society. The Health Department is then the local administrative mouthpiece of the community physicians. Its purpose is to control communicable diseases, and to further ideals upon which the medical profession is founded.

During my experience as a private practitioner and later as a Health Officer, I have, at times, felt that some elements of the medical profession consider the Health Department as a governmental agency foreign to the medical profession, and with this interpretation both the private practitioner and the Health Department have in some instances failed in their duties to the profession and to the community in which they live. My interpretation is that the doctors

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in every community have sponsored the Health Department and its staff, and under the direction of the Health Officer is to carry out and take such steps as are necessary to protect and conserve the public health. This is a task which cannot be accomplished by any one practitioner who is busy with his own personal clientele. With this fact established, the medical profession procures a preventive disease specialist from its own ranks to administer a communicable disease control program. Such a program is naturally based upon sanitation, inspection, field nursing, isolation, immunization, consultation, and early diagnostic and treatment clinics for persons suffering from or suspected of having a communicable disease, and those reasonably believed to be contacts. Osler once said that no one person can enjoy public health unless his neighbor does also.

A successful administration of these policies then must depend upon a thorough understanding and cooperation between the Health Department and its sponsor, the private practitioner. I do not believe that I shall be criticized in saying that the mortality and morbidity rates for practically all of the communicable diseases have been markedly lowered through activities of local and state health departments, and by direction of state and county medical societies.

The primary purpose of the doctor in his bedside or office visit is to comfort, cure and restore to normalcy a sick individual; then, through his own Health Officer, conditions causing the illness, such as poor sanitation, parasitic or rodent breeding conditions, dangerous food and water supplies, and uncalled for exposures to contagion, can be controlled. This is something that can be controlled only by the Health Officer and his assistants. The doctor can neither afford the time from his practice nor the lost friends he would suffer in attempting the individual administration of a public health program.

One can readily see the necessity of a doctor reporting the names and addresses of all persons suffering from a communicable disease, and for this purpose the Health Department sends each week to all of the practitioners in its territory a form which needs only to be mailed after the above information is placed upon it. Unless this is done, in my opinion, that doctor has failed in his responsibility to his community. For instance, take venereal disease, which is today killing one person out of each ten in the United States, and is considered our biggest communicable disease problem, along with tuberculosis: the law protects and asks the doctor to report venereal disease cases so that they may be adequately kept under treatment and the source of infection eliminated.

It is very difficult for a doctor in his practice to go out looking for a person who has been a source of infection to his patient, but he can, in most instances, give the name of that individual to the Health Officer who in turn can make proper disposition. Likewise, a case of tuberculosis presenting itself for the first time places a large responsibility on both the general practitioner and the Health Officer. Without either infringing upon the rights of the other, professionally or financially, it may be reported and the patient told by his doctor, in whom he has placed utmost confidence, that he will send the Public Health Nurse out to the home to assist in home isolation technique. In most instances she will be of great aid and comfort to the family in teaching its members many very elementary and important things that are overlooked as a rule.

A further service of the doctor's Health Department enables him to tell his patient that he is sending the Public Health Nurse by her home to help and assist her in the preparation for home delivery and to check complaints, blood pressure, and urines about which she can report to him, thus maintain-

ing a good patient-doctor relationship for rural or selected cases.

The doctor has a sanitation officer in the Health Department that he may send to his client's home to advise and assist in building safe excreta disposal systems, and the establishment of safe water supplies. I think that very often the doctor will prescribe for colitis and communicable diseases in infants and others when the underlying cause is probably a surface privy or no privy at all; unprotected water, unscreened house, mosquito breeding, and numerous other filthborne disease conditions. The doctor is probably forgetting to write a prescription to the sanitation officer for proper sanitation.

The doctor has at his service milk, meat and eating establishment inspectors, all of whom are trained personnel. It may be that one doctor sees a patient who is suffering from some of these products or from eating in certain places. It may not seem of very great importance, but if reported to the Health Department it may be the critical information to complete the picture of very hazardous health conditions when placed with other like information. The lurking dangers which are found daily by the inspectors is appalling at the present time. Many dairymen, operators of packing houses and cafes, and other food processors seem to be more concerned today with their net profits than they are with the safety of their products.

We think very little at this time of the importance placed upon disease prevention, but, if not continuously done, we shall probably be, in another few years or even months, where we were two generations ago, and I am sure no one wishes that. A very good relation has existed in most communities regarding immunization, as the medical profession has made it available to everyone at the Health Department. Very little is done at the Health Department for people that ordinarily have their own doctor, and only a small percentage able to pay for this service ever comes to the Health Department, but a large group of unbelievers and those of low income remain to be sold on immunization by the Health Department. Many of the immunizing agents and therapeutic drugs are furnished the doctor through the Health Department.

Most counties of Alabama have established venereal disease clinics. Some have ma-

ternal, chest and dental clinics for the low income group referred by the family doctor. Some are referred for diagnosis, some for treatment, and some for consultation, and at this point the Health Officer should be very careful and stay within bounds. I mean by this that he should not do private practice while being paid from public funds. Health Officer's activities should be confined to disease prevention and not to answering sick calls to patients except in consultation. Very often the Health Officer receives calls from patients, has requests made of him in his office, but, however delicate the situation may seem, they should immediately be referred to the practicing profession and not to any particular practitioner or close friend.

As Health Officer in a military area at the present time, I have admitted to service, treated, advised, forced treatment, and incarcerated patients in the local jail and prosecuted vagrants in an effort to lower an alarming venereal disease rate. Under ordinary or peace times, this condition could probably be dealt with satisfactorily through all the practicing physicians. But with prostitutes, pick-ups, pimps, and the rest of the trade following military encampments, I think the Health Officer is justified and should be encouraged by his fellow physicians to take such action. I believe that Selective Service registrants having a venereal disease are admitted to most Health Department venereal disease clinics without a referral from their family physician, inasmuch as very few physicians are willing to handle the clerical work required in treating the Selective Service registrant. Selective Service holds us responsible for the treatment of these cases and any other methods of farming them out with proper reports to be made by the private doctors have proved unsuccessful. Unless the majority of the patients are treated through the clinics we are unable to complete the voluminous paper work required to be forwarded to Selective Service departments.

The public in my own community is very appreciative of the effort being made to safeguard the public health. Only recently a very marked controversy arose over the closing of several eating establishments due to insanitary operations, and to degrading a milk supply. Lawyers, civic leaders, and politicians were seen by the offenders who

were attempting to negotiate releases. They very shortly found out and were told by members of the Board of Health that they and the rest of the doctors in the community would not tolerate any such action and that there was only one thing to do: clean up or get out; that the Health Department was working under the direction of the local Board of Health and Medical Society, and that they alone control such matters. Excellent results were obtained and persons knowing of this action were proud to know that the welfare of the community was really being looked after by the medical profession.

In closing, there is one other thing that I wish to call to your attention, and that is vital statistics. Years ago when transportation and roads were very poor, registrars were appointed in each beat to collect birth and death certificates. These records have been copied by health departments and the original certificates forwarded to Montgomery for permanent filing. Today we have thousands of calls for copies of birth and death certificates for equally as many purposes. I can see no connection between the clerical work this entails and the successful administration of a public health program. I suggest that one county vital statistician be appointed in the various county seats for this purpose, and all certificates be filed at that office. Birth and death rates could be furnished the Health Officer for his information. Regardless of who collects these certificates, however, I believe attending physicians should file these records promptly to avoid mountains of confusion.

Congestive Heart Failure—There is a great difference of opinion about even the advisability of using diuretics in acute congestive heart failure; some people believing that the circulation already embarrassed should not be further overburdened by the added work of removing edema fluid. However, this argument at least does not hold when applied to those diuretics acting upon the kidney and decreasing the volume of circulating fluid in the vascular system. It is true that the matter of systemic edema is hardly a major problem in the treatment of acute congestive failure; but pulmonary congestion or edema is a very important one, and the use of potent diuretics may be of some benefit in relieving this problem. The removal of tissue edema fluid may enable the heart to recover enough perhaps to postpone recurrences of acute heart failure.—Rollings, New Orleans M. & S. J., April '44.

Chest Injuries—In no class of injuries, unless it be certain injuries to the brain, are the physiologic processes of the body so much disturbed as they are in certain chest injuries. The disturbance of these physiologic processes lead to great embarrassment of respiration and circulation. These injuries may be accompanied by shift of the mediastinum and its contents, by mediastinal flutter, by paradoxical respiration with anoxemia, or by massive collapse. Also these injuries may be followed by infectious processes such as lung abscess, empyema, and gangrene of the lungs. Injuries to the chest may be classified as superficial and deep. The former are those which extend down to the parietal pleura. The latter are those which extend through the parietal pleura to varying depths into or through the chest. In the superficial type of wound the treatment is debridement of the wound, arrest of hemorrhage, and closure. In the deep type of wound we may have to deal with hemothorax, pneumothorax, tension pneumothorax, mass've collapse, laceration of lung, cardiac tamponade, mediastinal flutter, mediastinal shift or paradoxical respirations, in various combinations.

Hemorrhage may be from the intercostal or internal mammary vessels, from the pulmonary vessels, the bronchial vessels, or the heart and great vessels. If from the intercostals or internal mammary vessels they will have to be ligated or they will continue to bleed. If from the pulmonary vessels the hemorrhage may be controlled spontaneously due to the lower blood pressure in these vessels, the retraction of the lung tissue, and the pressure exerted upon the lung tissue from the accompanying hemo-pneumothorax. If the hemorrhage is from the bronchial vessels, which come directly off the aorta and in which there exists the regular systemic pressure, and which bleed directly into the lung tissue, a hematoma forms in the lung tissue. Pressure from the hematoma and the pressure from the accompanying hemothorax may stop the bleeding. We cannot very well ligate these vessels. If the hemorrhage is from the heart and great vessels, the patient is likely to be dead upon his arrival; but if not dead and cardiac tamponade is present, immediate operation is indicated to relieve pressure on the heart.

Aspiration of the pericardial sac may be indicated while getting ready for the operation, as may also be the starting of transfusion.

In hemothorax several pints of blood may be contained in the pleural cavity and yet be compatible with life. Unless respiration and circulation are too much interfered with by the pressure on the lung and by shift of the mediastinum and its contents, we should not aspirate this blood too soon because it may be helping to control the hemorrhage from a lacerated lung. However, if respiration and circulation are too much embarrassed, aspiration, at least partial, of the hemothorax must be done immediately. It is a well known fact that the blood in a closed hemothorax does not clot as readily as does blood elsewhere in the absence of infection or large laceration. This is thought to be due to the defibrinating action caused by the movements of the lung, the heart, and the diaphragm. After two or three

days the chest should be repeatedly aspirated to keep it free of blood.——Benbow, Texas State J. Med., April '44.

Torsion of the Uterus—The predisposing causes of torsion of the uterus most favored are pelvic tumors, adhesions, laxity of the supporting ligaments and abdominal wall, and a soft, thinwalled lower uterine segment. It is felt that a large asymmetrical uterine fibroid is very commonly a predisposing factor. The most favored activating factor is a sudden twist or turn of the body, such as suddenly turning over in bed. It is also felt that certain occupations or duties may be the exciting cause. The twisting motion of sweeping or scrubbing a floor or operating a hand scythe, all of which require a swinging motion of the body, are felt by many authors to be immediate etiological factors. Robinson and Duvall of England feel that the bladder may at times contribute to the cause by its fascial relation with the vagina, cervix and lower uterine segment. The amount of contact between them depends upon the degree of distention, and reaches its maximum when the bladder is full. A completely full bladder stiffens the lower part of the birth canal and acts as a kind of splint to the uterine pedicle. The empty bladder splints the vagina only and thus offers a fixed point around which the uterus may twist. It is felt that during pregnancy, when a woman arises during the night to empty a full bladder, torsion may occur during the act of rolling over when she gets back into bed after the splinting of the full bladder has been removed.—Ball, Minnesota Med., April '44.

Cancer—In periodic health examination seems to be the possible solution of the cancer-prevention problem today—careful education in and search for factors indicating cancer, precancerous lesions, habits and diseases which are known to predispose to cancer.

Cancer-control publicity should be so intensified and modernized as to reflect the definite opinion of authorities that much can be done which may prevent cancer of internal organs in the individual. The necessity for periodic examination by the physician naturally follows.

The physician must possess knowledge of the exciting factors and conditions known to precede the various forms of cancer. He must preach individual hygiene in this relation, and the importance of moderation in eating, drinking, exercise, and avoidance of exposure to all forms of irritation. Above all, he must inculcate the need for that godly quality, "cleanliness," the liberal use of soap and water, which is probably the best single preventive of preventable cancer.

Such a program would be unspectacular and hardly what the public has been led to expect in regard to cancer prevention, but is probably more closely related to cancer control than a very scientific expose.

very scientific expose.
When individuals gene

When individuals generally realize that cancer constitutes the greatest single threat to their own lives . . . persons will seek out whatever advice our profession can give relative to cancer control. —Bowers, J. Indiana M. A., April '44.

B. F. AUSTIN

Montgomery

THE JOURNAL

of the

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REGARDING THE MEDICAL SCHOOL

The Physicians' Advisory Board for Alabama's four-year medical school has been appointed by Governor Chauncey Sparks with personnel and terms as follows: Dr. W. M. Salter, Anniston, five years; Dr. J. S. McLester, Birmingham, four years; Dr. J. Mac Bell, Mobile, three years; Dr. W. D. Partlow, Tuscaloosa, two years; and Dr. Harry Lee Jackson, Birmingham, one year.

* * *

According to announcement made by Dr. Raymond Paty, President of the University, Dr. Roy Rachford Kracke, Professor of Pathology at Emory University, has been named Dean of Alabama's four-year medical school. Of him the Journal of the American Medical Association writes as follows: "Dr. Kracke was born in Hartselle, Dec. 5, 1897. He attended Alabama Polytechnic Institute, Auburn, and in 1924 received his bachelor's degree from the University of Alabama. He received his degree in medicine at the Rush Medical College in 1928. He spent a year in 1925 at the University of Alabama as instructor in pathology. He later was appointed to Emory University as instructor in pathology, subsequently serving as assistant professor, associate professor and professor of pathology, bacteriology and laboratory medicine. In 1934 he was awarded the certificate of merit by the American Medical Association for his exhibit showing original investigation for his work illustrating the knowledge of etiology of granulocytopenia and in 1935 the gold medal of the American Society of Clinical Pathologists for his work on agranulocytic angina. He has written extensively and is author of Diseases of the Blood and Atlas of Hematology (with Hortense Garver)."

In a recent editorial, the Atlanta Constitution said that "Dr. Roy Rachford Kracke's decision to accept the position of dean of the University of Alabama's newly-organized medical school is a serious loss to Emory University and to medical research in Georgia. He is one of the most brilliant research men in the field of blood and tissue pathology in the United States. His reputation has, within a few years, become international in scope. Devoted to Emory, he left only because of the much greater opportunity to build a new medical college. The college, which will open its doors this fall, is to be located in Birmingham. It has the enthusiastic support not merely of the Legislature, but of the Birmingham medical men, hospitals and of the municipality. All good wishes go with Dr. Kracke."

PRIMARY ATYPICAL PNEUMONIA

"The increasing incidence of primary atypical pneumonia in certain army hospitals in combination with its frequently prolonged febrile period and slow convalescence is rapidly making it one of the most important causes of man days lost from duty in the military service. The appearance of this disease in significant numbers of cases at the time the medical literature was heralding the conquest of pneumococcic pneumonia is but another indication that medicine will never become a static science." Thus do Ravenswaay, Erickson, Reh, Siekerski, Pottash and Gumbiner¹ open their discussion of this disease which is now confronting us to an increasing degree.

^{1.} Van Ravenswaay, Maj. Arie C.; Erickson, Capt. George C.; Reh, Capt. Edward P.; Siekierski, Lt. Joseph M.; Pottash, Lt. Ruben R., and Gumbiner, Lt. Bernard, Medical Corps, U. S. Army: Clinical Aspects of Primary Atypical Pneumonia, J. A. M. A. 124: 1 (January 1) 1944.

The military doctors hold that "the term primary atypical pneumonia should be reserved for the large group of cases of unknown causation." And they tell us that "the present study is based on an experience with 1,862 cases of primary atypical pneumonia, causation undetermined, treated at the Station Hospital, Jefferson Barracks, Missouri, from June 1, 1942 to August 10, 1943. During this interval 62 cases of lobar pneumonia of pneumococcus origin also were seen. The differential diagnosis of these two conditions was based on bacteriologic studies of the sputum, the white blood count, the x-ray appearance and the clinical course. Occasional cases occurred in which differentiation was difficult and not clearcut, but it is felt that the foregoing figures give a fair picture of the distribution of cases."

The authors tell us that the mortality in this series of primary atypical pneumonia was only 0.26 per cent and "the incubation period has been estimated to range from two to twenty-one days or longer. . . ."

"Approximately two thirds of this series had a gradual onset with a history of an upper respiratory infection for days or weeks followed by the development of incapacitating malaise, chilliness, fever, cough and chest pain. In one third of the group these symptoms appeared abruptly, requiring early hospitalization. Severe headache was frequently present and at times associated with meningeal signs. . . ."

"Physical findings initially were often confusing. Fever was almost invariably present. The most helpful localizing symptom was the presence of rales (56.2 per cent), which varied in character but most typically were dry and crackling and occurred in showers near the end of inspiration. . . Dullness to percussion was present in 25 per cent of the cases. Dyspnea was detected in 21.7 per cent and diminished breath sounds in 19 per cent. . . ."

"The initial diagnosis was frequently one of exclusion as x-ray findings and definite localizing physical signs were not present until several days after the onset of the disease." The white cell count was found to be of little value, being usually normal and less frequently slightly elevated. "Valuable information for controlling the management of these cases can be obtained from

sedimentation tests done at weekly (or shorter) intervals. In the acute stage of the disease the sedimentation rate is invariably elevated and ranges from 20 to 40 mm. per hour. As the disease improves this gradually returns to normal, and with recurrences or reactivation it shows secondary rises which can be correlated with clinical and x-ray findings."

The investigating group found that "a very important factor contributing to the long period necessary for recovery of the patients with atypical pneumonia seen at Jefferson Barracks was the frequent recurrences which developed under conventional treatment." And they found that "for optimum results the clinical management of primary atypical pneumonia of the type seen at Jefferson Barracks during the past year should include a more prolonged period of postfebrile bed rest than ordinarily is indicated in pneumococcic pneumonia of similar age groups."

The army investigators have made a splendid contribution toward the better diagnosis and treatment of this form of pneumonia and much of what they found will apply to the civilian population also. Unfortunately, many civilians suffering from primary atypical pneumonia must be treated at home. And, of those hospitalized, many will find themselves in institutions not adequately equipped to carry out many of the diagnostic and therapeutic procedures that are essential for dealing adequately with this disease. And also the civilian practitioner cannot compel or persuade many of his patients to remain in bed for a sufficient length of time, once some degree of improvement has become evident. But by being alert and on the lookout for atypical pneumonia, especially during epidemics of colds and influenza, even the isolated physician can make the diagnosis in many cases, to the betterment of his patients.

[&]quot;Only a few years ago critics of the medical profession were charging that a large percentage of births received inadequate medical attendance. In 1935 records of the type of such attendance were obtained for the first time. The Bureau of the Census has recently issued a special report entitled "Live Births by Person in Attendance: United States, 1942, March 24, 1944." This shows a steady and rapid increase in the percentage of births attended by a physician in hospitals—from 36.9 per cent in 1935 to 67.9 per cent in 1942."—J. A. M. A., Apr. 29, '44.

IN MEMORIAM

WILLIAM MOODY CUNNINGHAM 1858-1944

A Eulogy By Dr. D. H. Wright of Berry

With the Walker County Medical Society, of which he was a member for so many years, we have come to pay tribute to Dr. William Moody Cunningham who died January 18, 1944, a friend to us all; a friend of man, and one who was the very essence of ethics; one who was clean, pure, sober and dependable; and one who was so good that this eulogy of him can know no beginning nor ending.

Dr. Cunningham, who practiced medicine among us for fifty-two years before his retirement in 1936, was born February 4, 1858 in Walker County, Alabama, the son of John Cunningham, formerly of Seneca, South Carolina, and Margaret Anne Leonard of Virginia. He was married to Emmet Ella Wright in 1886, and to them four children were born: Ellette Lovinia, Anne Elizabeth, Margaret Josephine and Willie Mae.

He received his early education in the public schools of Walker and Fayette Counties, in the last named of which he taught, and having attended Louisville Medical College for a time entered Vanderbilt University from which he graduated in 1884, being its oldest living graduate at the time of his death. He was often a guest lecturer to the senior class of his Alma Mater on reminiscences and differences in fifty years.

Dr. Cunningham was the recipient of many honors, including the presidency of the Medical Association of the State of Alabama (1935) and of the Southern Railway Surgeon's Association. He served as president of the Walker County Medical Society, was chairman of its Board of Censors for many years, and represented the State Medical Association in the House of Delegates of the American Medical Association. He was a steward in the Methodist Church and a Shriner.

It was at Corona, Alabama, that Dr. Cunningham began general practice in 1884, and the town, becoming headquarters for a rapidly growing number of mining camps, witnessed an increased incidence of accidents and emergencies. With the nearest hospital at Birmingham, fifty miles away, Dr. Cunningham appreciated the crying need for surgical facilities close at hand.

This need was emphasized when he was called on to perform his first operation—a railroad accident, the patient having had both legs crushed, with amputation imperative to save his life. Loss of blood precluded transportation to a hospital. With the help of the fireman, whom he directed in administering the anesthetic, and with water, towels and instruments boiled on the depot stove, he placed the patient on the cushion of the caboose and amputated both legs above the knees. The injured man lived to see Dr. Cunningham thirty years later. It was that incident that gave birth to the idea of a local hospital, and the success of the operation was prophetic of a long and extraordinarily successful career as a surgeon.

Dr. Cunningham related to me some years ago the events that attended his first tonsillectomy, an operation that had been performed in a limited way in the State in Birmingham up to that time. He bought the necessary instruments, and people learned of it, so when a Negro girl kept worrying her mother, the mother, wishing to be rid of the worry for a time at least, directed the child to go to Dr. Cunningham so he could take her tonsils out. She shyly entered his office and told him what her mother had said. He made ready, seated her in an ordinary cane-bottom chair, eased in and removed one tonsil. She cried and "took out" on him but finally, after much persuasion and with a ten-cent coin as a reward, he was allowed to reenter and remove the other tonsil after which she returned home and made an uneventful recovery.

Corona Hospital, the first small-town hospital in Alabama, was established by Dr. Cunningham in 1906. There he did private and mine contract practice, both medical and surgical, under three successive mine ownerships and operators—L. B. Musgrove, Morris and Edgar Adler, and Henry T. De-Bardeleben—until mining operations ceased in that locality and medical services were moved to Jasper to include new camps.

Dr. Cunningham enjoyed long years of remarkably good health, and, in 1936, retired after fifty-two years of service and sacrifice to humanity. Until then he had never allowed himself a vacation for rest and recuperation but spent all his off-time on trips for additional study and faithful attendance upon medical meetings. He attributed his

longevity to three factors: (1) years uninterrupted by illness; (2) moderation in all things, and (3) the practice of calmness and deliberation in all circumstances. He hurried only when necessity demanded it.

He never deviated from his early determination to render a superior service to the rural man and isolated industrial worker. He could not be tempted at any time to forsake this purpose by urgent and attractive opportunities offered in cities. He was not "the first by which the new was tried nor yet the last to lay the old aside." He kept abreast of the times but practiced conservatism. He was a living example of medical ethics, and deplored fee-splitting among doctors, looking upon it as bootlegging in human flesh. This was the theme of his presidential address to the State Medical Association in 1935.

It was Dr. Cunningham's privilege to select the physician who was appointed Alabama's first full-time County Health Officer, Dr. C. A. Grote, now of Huntsville, and the third in the United States to serve in such a capacity. Dr. Cunningham was distinguished also by the inexpensive hospital care he provided for the needy, for the training, as "pointer," he afforded eight of us younger doctors to whom he referred affectionately as his "pups," and for his advocacy of good roads, better churches, better schools and better living conditions. His career could fitly bear the title "From Saddle Bags to Specialist."

It was my pleasure to be associated with him over a number of years in a service with a common purpose, for to me he was as a Father of Medicine, and that association will always be a cherished possession, making my life richer and inspiring me to higher and nobler efforts. So, while we mourn this irreparable loss, we are grateful for his life and service, and for his ethical spirit that lives among us. I am happy to feel that the ideals for which he stood and the conscientious service that he rendered with such vigor throughout his long years of service are alive and vital, and will continue to grow through the principles which he inspired.

His splendid services and sacrifices to humanity shall not be forgotten nor shall they die for they are implanted in the minds and hearts of his friends.

What more can we say at this time? Words cannot carry the deep sentiments of love and respect which are buried deeply in the hearts of all of us. If we wish to pay tribute to Dr. Cunningham, let us strive to attain in our lives the ideals for which he stood. Therefore, while we come in sadness over his going, and have hearts of sorrow and grief, on the other hand we wish to proclaim our appreciation of his strength, to recognize his great contributions to our lives, and to express in loving memory a measure of the fine friendships and inspiration which came to us from him. For fiftytwo years he did active practice here, untiring, steadfast and constructive. We shall ever remember the magnetism which drew men to him—the wisdom which guided and helped others to become more useful men.

In our hearts we feel grateful and thoughtful for this wonderful life, from which have come principles that do not change and memories that do not fail.

WILEY DENNIS WOOD 1881-1944

Dr. Wiley Dennis Wood, a Counsellor of the Association, and a widely known and beloved physician, died of diabetes mellitus and hemiplegia January 7, 1944 at his home in Camp Hill. He was born August 29, 1881 in Washington County, Alabama, the eldest of six children, his parents, William Elijah and Eliza Jane (Cupp) Wood, being members of pioneer families of that county.

His early literary training was received in the public schools, and at Jacksonville State Normal College where he spent three years. For his medical education, he studied first in Memphis, Tennessee, and then at the Medical School of the University of Alabama, located in Mobile. He received his M. D. degree at Mobile in 1908, and practiced in his home county until 1912 when he removed to Camp Hill.

On June 20, 1907 Dr. Wood married Miss Hattie Gross (graduate of Jacksonville State Normal College), Camp Hill, who passed February 2, 1929. His second marriage was on June 28, 1933 to Miss Linda M. Sullivan, Camp Hill (A.B., B. M., Wesleyan College, Macon, Ga.).

Dr. Wood was an active member of the Tallapoosa County Medical Society (serv-

ing at different times as secretary and president), the Medical Association of the State of Alabama, the Southern Medical Association, the American Medical Association, and the Association of Alabama Power Company Surgeons. Fraternally, he was affiliated with the Masons, Knights of Pythias and Woodmen of the World. He was a valued member of the Methodist Church and teacher of the Philathea Class, always giving a message that was fresh, instructive and evangelistic, filling through his brilliant intellect every mind and heart not only with the beauty but also with the practical side of a Christian life. He was active in every phase of war work, and in War Loan appeals was a liberal buyer of bonds. He was a leader both professionally and personally and held the warm esteem and affection of all. He was beloved throughout all medical, fraternal and church circles, and his presence is sorely missed.

The secret of Dr. Wood's successful life was work. He had knowledge, alertness and compassion. For 35 years he practiced medicine and achieved a high degree of success. He devoted a large portion of his service to the unfortunate and underprivileged. He was a fine type of the beloved family physician-modest, kindly and thoroughly competent, serving high and low, rich and poor, white or colored with like faithfulness and untiring energy. He was a student as well as a practitioner of medicine and kept abreast of the times in the rapid expansion of medical knowledge. There was one earnest desire and unvarying purpose in his life —the desire to help, heal and relieve the suffering of his fellow man. He gave useful, loyal, general service to all. He was never known to refuse to attend a patient because of lack of money, but would go out in severest weather to make his humanitarian rounds, when he knew that he would receive no remuneration for his services. Countless times he has been known to give his patients money instead and carry food and other necessities to destitute families during serious illness. His life was a benediction. His attitude and passion may well be expressed in these words:

"Let me live in a house by the side of the road and be a friend to man."

In addition to his wife and son (Lt. Wm. Gross Wood, M. C., Camp Lee, Va.), Dr.

Wood is survived by two sisters, Mrs. E. D. Logan, Tuscaloosa and Mrs. J. K. Hartley, State Line, Miss.; and two brothers, Dr. W. A. Wood, Birmingham, and Ernest S. Wood, Montgomery.

Occupational Therapy in Tuberculosis Treatment—Modern treatment of pulmonary tuberculosis has as its core a radical change in the patient's accustomed way of life. In place of a vertical, active routine which gives the invading bacilli further opportunity to multiply and spread, bed rest, comprising a continuously horizontal, physically relaxed regimen, is almost universally prescribed. This gives the natural defenses of the body maximum opportunity to cope with the invading parasite and thus check the disease. In selected cases, mechanical aids, such as pneumothorax and various forms of thoracic surgery are utilized, but rest remains the principle and the essence of treatment.

As many practicing physicians have observed, most patients have a childlike faith in chemotherapy, coupled with an utter indifference or even a hostility toward advice which may contain far more therapeutic reality than a drug prescription. This is peculiarly the case in prescribing for the tuberculous patient. For the brief interval of an acute illness, he might grudgingly consent to rest. However, the need to devote weeks and months to uninterrupted, prone bed rest is rejected by thousands of patients. Many of these patients had a prognosis, at the time of diagnosis, which gave promise of a capacity to cope with the disease. We are confronted, over and over, paradoxically on the one hand, with patients whose disease was diagnosed only when it had reached a far advanced stage but who have returned to useful lives because of their immediate and consistent cooperation with a competent physician. On the other hand, we see minimal cases whose inability or unwillingness to cooperate in treatment leads to their death from progressive disease. Voluntary discharge against medical advice is today the greatest medical flaw in the American sanatorium system. We shall control the spread of tuberculosis effectively only when we can induce a greater proportion of all patients to accept treatment for whatever period may be necessary to assure a lasting recovery .- Hudson, Virginia M. Monthly, April

"Occupational therapy is a psychiatric procedure which no well-organized mental hospital can afford to be without. It tends to promote recovery, mobilize the total assets of the patient, prevent deterioration and the development of artefacts, create new and beneficial habits, and promote rehabilitation and a return of self-confidence."

TRANSACTIONS OF THE ASSOCIATION

1944 SESSION

PART I

OF THE SEVENTY-SEV-TRANSACTIONS ENTH CONSECUTIVE ANNUAL SESSION OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA, HELD AT MONT-GOMERY, APRIL 18, 19, 20, 1944.

First Day, Tuesday, April 18

The Medical Association of the State of Alabama convened in the ballroom of the Whitley Hotel, Montgomery, and was called to order at 10:00 A. M. by the President, Dr. Fred W. Wilkerson of the host city.

Invocation was offered by the Reverend E. R. Neff, Rector of St. John's Episcopal Church.

Addresses of welcome were delivered by Dr. R. S. Hill, representing the Mayor of the City of Montgomery; and Dr. Frank W. Riggs, President of the Montgomery County Medical Society.

Vice-President J. Paul Jones of the Southwestern Division of the Association, Camden, presented President Wilkerson who delivered his message as follows:

The President's Message

Members of the Medical Association of the State of Alabama and Guests:

To have served as your President for the past year is an honor I shall never forget. It has been a privilege to have come in contact with the profession from the different districts of the State and an inspiration to have seen how they are carrying on in spite of tremendous difficulties. I shall always be grateful for this opportunity and from the bottom of my heart I appreciate this

expression of your confidence.

I have attended meetings in three of the great divisions of our Association and have come away from each with a profound feeling of satisfaction in the soundness of our organization and in its membership. In spite of being tremendously overworked, in spite of almost insuperable obstacles, our doctors are doing a splendid job of looking after the sick and trying at the same time to become constantly more and more efficient. For a long time I have had the conviction that medical men are a most earnest body, more interested than any other group in trying to improve themselves and to perfect their skill, a conviction which has grown greatly as a result of the experiences of the last year. With an utter thoughtlessness of self, doctors are working harder than ever in their lives—even literally working themselves to death in many instances—in an effort to give relief to those entrusted to their care. Although attacked from different sources we can hold up our heads secure in the knowledge that we are more than doing our part.

At this juncture let me pay tribute to the work of our distinguished Health Officer, Dr. B. F. Austin, who is following so well in the footsteps of his famous predecessors. The State Health Department has been terribly handicapped by the loss of men to the armed forces and to defense industries, it is losing key men almost daily. yet Dr. Austin is managing to maintain the essential activities of the department in a most effective manner, due not only to his own excellent work but also to the loyalty and efficiency of his staff. I am personally deeply indebted to Dr. Douglas Cannon for his great help in arranging the program of this meeting and in all other matters that we have had to undertake during the year. His courteous assistance has been invaluable and his editorship of the Journal speaks for

The four Vice-Presidents have been active in promoting the welfare of the Association in the r respective districts. In three of the districts, despite the difficulties of travel and the urgency of work, stimulating meetings have been held, all of which I have attended. In many organizations committees do more or less routine work in a more or less perfunctory manner, but the committees in this Association take their responsibilities seriously, as is shown by the excellence of their reports. Their accomplishments are of great value to the Association and they deserve our praise.

The past year has seen active steps set in motion toward the building of a medical school, which will soon become a reality. Governor Sparks, who has manifested great interest in this project, persuaded the Legislature to supply the funds, then appointed a locating and building committee, which, as you know, after giving careful study to the matter, finally decided on Birmingham as the site. Alabama should always be grateful to Governor Sparks and to this Legislature.

The Woman's Auxiliary, as usual, is keeping up its good work. I extend to it the greetings of the Association and our best wishes for its continued success.

The Women's Field Army under the capable leadership of Mrs. Ray Meade is developing a strong organization, and will undoubtedly prove of tremendous aid in the ultimate conquest of

One of the duties of your President is that of submitting to "the Association a message devoted to a discussion of the interests, organization, objects, or business of the Association" and of making to this body any recommendations that, in his opinion, will be of benefit. We are so stable a body, our work is being done so well that I

think no drastic changes are necessary, but I am making three definite suggestions that I think are worth while.

The first of these concerns our coroner system which is one of the most inefficient agencies of the State Government. Knowledge of the causes of unnatural or violent death is often a most important matter and in recent years the armed forces have frequently had great difficulty in getting proper information as to the causes of death of service men who have died under suspicious circumstances away from their stations. The present law simply provides that a coroner shall be elected by the qualified voters of each county. It is not even necessary that he be a physician. In fact, at present, only two counties in the State. Mobile and Montgomery, have medically trained coroners. The average coroner's report is absolutely worthless. I realize that only a few of the counties of the State could afford a regular medical examiner, but it does seem to me that we can improve on the present law, at least to the extent of requiring that the incumbent of this office be a legally licensed physician. I recommend that the Board of Censors have a study made of this matter with the idea of having the Association sponsor legislation to make this office more worth while to the State.

Organized medicine is now at the crossroads, confronted on the one hand by complacency within, which would leave things as they are, and on the other hand by the advocates of the complete socialization of medicine, the adoption of which would take away all that we have striven for and undo all the accomplishments of the years. That changes in our present system are inevitable and necessary seems self-evident to me; that these changes should be directed and controlled by the medical profession seems equally self-evident. If we do not take the lead ourselves we will have many undesirable changes forced upon us by governmental agencies. The American Medical Association is now, cf course, working along these lines, though I think it was a little late in getting started. Much study of existing problems is being undertaken, which, in the end, I am sure will prove worth while. It behooves us all to keep abreast of present trends and to lend our voices to constructive ideas. No one man or group of men can do it unaided, but the united efforts of an enlightened profession, alert to all dangers, will be required to attain success in this undertaking.

Alabama, just as all other states, has its share of problems not the least of which are the proper location of physicians and the furnishing of medical care to the indigent. These are closely related. For many years we have noticed that young doctors are not going to small towns or rural areas, and many of these localities, as their present doctors die or become incapacitated, will be left without medical care of any type. It has been hoped and argued that a four-year medical school, by keeping more doctors in Alabama, would largely remedy this situation. Undoubtedly, it will help some, but not, in my opinion, to any great extent for I think there are two factors that keep young doctors away from rural communities: an economic one and inability in these areas to have x-rays, laboratory tests, and other accessory aids to help them in their work. Young doctors are not willing to locate where they cannot make enough to support themselves and their families and they are not willing to rely on their five senses alone. In medical school and in hospital they have been taught the value of x-rays, laboratories, electrocardiograms, basal metabolism tests, and other important adjuncts to diagnosis and treatment. They are not willing to work without these and consequently they are not going to locate where such things cannot be had.

Up to now the problem has seemed insuperable and I do not know what the final answer will be, but, at present, the most promising solution to me seems to lie in a system of tax-supported hospitals built at strategic points where the indigent can be taken care of at the expense of the county or State, and those able to do so can pay. I believe young doctors would be attracted to locations having such hospitals and in this way both the scarcity of doctors would be overcome and the problem of the indigent patient solved.

These are only some of the pressing matters. There are many others, such as that of prepayment insurance, recognition of refugee physicians, to mention only two, that will become even more important after the war. To do our share and to keep our profession in the forefront it is necessary that we become familiar with all the new ideas and proposed changes. With this in mind I recommend that the President of the Association appoint a Postwar Planning Commission of three or more members, one of whom shall be the State Health Officer, to serve for a term of three years, whose job it shall be to study the situation, particularly in our own State, to keep in close touch with the action of the American Medical Association, and to make to the State Board of Censors any recommendations it deems necessary for our particular difficulties. Such a commission might, it seems to me, serve a very useful purpose.

For a number of years I have been distressed over the small number of the younger men in the Association who take any interest in the Association as such. Many of them should now be assuming positions of leadership within the organization and taking over some of the burdens from those who have been at the helm so long, but, until they were called into service, very few seemed concerned at all. On numerous occasions I tried to get at the bottom of this and to discuss the cause of their disinterest. The only concrete answer I have ever obtained is that many of them feel that the State Board of Censors is a more or less closed corporation, running the Association as it sees fit, with no chance for an outsider to break in. As one who has served fourteen years on that body and has known intimately all its members during that time. I realize how utterly erroneous is such an impression. All the Board members that I have known have been actuated entirely by their interest in the Association, with no thought of political preferment for themselves. It is very unfortunate that this idea has become so widespread, but I am afraid it is very prevalent, par-

ticularly among our younger men.

It has been the custom from time immemorial for the Association to reelect to office men who have made good on the Board and these men have been excellent, in fact, invaluable members. In view of the feeling mentioned above, however, it seems to me that it might be advisable to limit the length of time that one man may serve, so I recommend that the Association amend its Constitution by providing that no member can serve consecutively for more than two terms of five years each. This would not preclude his election or appointment at a later date, but limiting the term of service in this manner would tend to meet the criticism mentioned by giving more men an opportunity to serve, and thus create, I hope, more interest in the affairs of the organization. The injection of new blood from time to time, would, I believe, prove stimulating. Let me reiterate that this implies no criticism of any of the fine men who have served so faithfully and so well, but it is suggested as an effort to create more general interest among a large group of our members, who feel, mistakenly, I realize, that they are more or less on the outside, with little prospect of advancement in the Association. Their active interest would do much to help this fine body.

There are at present and will be in the future many other pressing problems, of which time does not permit consideration now. In spite of the difficulties of the times, the Association is thriving and I feel sure will be able to meet any challenge that may arise if we keep alert and interested. In conclusion, let me thank you again for your kindness and cooperation during the past year and let me bespeak for my successor the same consideration that has been accorded

The President's message was referred without discussion to the State Board of Censors.

REPORTS OF OFFICERS AND COMMITTEES

The reports of officers and committees were received, and each referred in its turn, without discussion to the Board of Censors. These reports follow:

Report of Vice-President McNease Northwestern Division

No meeting was held in the Northwestern Division during the past year, and it is with deep regret that I am obliged to report this fact to the Association. I realize the futility of offering any excuse for this seeming indifference, and have none to offer other than the fact that there never appears to be time these days for anything but work. In our immediate territory, a number of the physicians have been disabled, due to illness, for varying lengths of time, and this has thrown added work on the remaining doctors who already had too much to do. From conversations with physicians from other sections, it would seem that this same condition prevails more or less universally.

The majority of our county medical societies hold regular meetings with instructive programs. I have had the pleasure of attending meetings held in only a few of the counties of the district.

Report of Vice-President Jones Southwestern Division

We had only one meeting in our division the past year. This was in Camden and the speakers were Drs. Platou, Ochsner and Burch of the Tulane faculty, who gave papers on amebic dysentery, erythroblastosis, and congestive heart failure. Surprisingly, we had as large an attendance of doctors as we have ever had at a meeting.

I have visited a few of the societies and made spot trips to see many men in our division. The societies meet once or twice a year, except for a few larger counties. Most men are so busy that they do not find time to attend regular meetings.

I find all doctors disturbed by the threat of socialized medicine. In the letters from doctors overseas, all express the hope that we will not let them down by allowing it to be put over while they are away from home.

Report of Vice-President Morgan Northeastern Division

The work of the various county medical societies in this division is going on about as usual in spite of the fact that all of the doctors are extremely busy on account of many of their colleagues being away in our armed forces and also due to the increased population in many sections brought about by war activities. All of the larger societies are holding regular meetings with good programs but a few of the smaller ones have not been able to do so.

Only one meeting of this division was held this year. The host was the Calhoun County Medical Society. This meeting was held in Anniston on Dec. 1, 1944. On the program was our state president, Dr. Fred W. Wilkerson; also Drs. Sellers, McCorkle, Dunn, Caldwell and Major White. This was one of the best meetings held in this division. There was an attendance of more than

50 and 14 counties were represented.

I had the pleasure of attending a most interesting meeting of the Talladega County Medical Society on April 4th at which postwar planning was discussed.

Report of Vice-President McCaslan Southeastern Division

There are 358 registered physicians in the Southeastern Division. Of this number, 309 are members of their respective county societies, leaving a total of 49 nonmembers in practice. Twenty of the 49 nonmembers are negroes. Of the white physicians in the division, 93% are members of their medical societies. This, I think, is an excellent record—but it would be much better if we could make it 100%. I want to urge the societies in the various counties where there are nonmembers to make an effort to get these nonmembers into the fold.

Fifty doctors, representing twelve counties out of the seventeen in the division, are serving in

the armed forces of the United States. This represents about one-sixth of our membership. Montgomery County leads the number in service with 28 out of a membership of 86. But the Southeastern Division is composed largely of rural counties and most of the doctors are over the service age. Therefore our record is very creditable.

There are 271 doctors now in active practice in the Southeastern Division. These doctors serve an estimated population of about 586,000. gives an average for the division of about one doctor for each 2100 persons. The ratio of physician per patient is lower in the more densely populated counties. Some of the rural counties have only one doctor for 3000 to 4000 persons, and there is need in these counties for more physicians to adequately serve the people.

Due to the stress of work and travel restrictions, I did not visit any of the county societies this year. I wrote to the secretary of each society and received replies from 12 out of the 17. Eleven of the twelve societies heard from have meetings, but these are irregular and, on the whole, poorly attended. One county, Barbour, has called off regular meetings for the duration. I think we are making a mistake by not having regular meetings of each society, no matter how small the membership. The county societies are the backbone of the State Association, and we would have a stronger Association if we would stimulate more interest in the meetings of these societies. I would like to urge each society to have at least one regular meeting each month, at which meeting one or more papers be read and cases of interest discussed.

At the suggestion of the State Board of Censors, and concurred in by all of the societies in the division only one division meeting was held during the year. This meeting was held in Union Springs on October 13, 1943. Members were present from eleven counties in the division, and the following program was presented:

1. The Treatment of Hypertensive Disease in Pregnancy, Dr. Archie E. Thomas, Montgomery; 2. Anorexia in Infancy and Childhood, Dr. Frank B. Schley, Columbus, Ga.; 3. A Discussion of Focal Infection, Dr. Fred Wilkerson, Montgomery; and 4. Interesting Observations Made During Eighteen Months in an Army Hospital, Capt. Thomas F. Frist, Maxwell Field.

I wish to thank the members of the Southeastern Division for their support during the past year, and assure you that I shall do all in my power in the ensuing year for the betterment of organized medicine in Alabama.

Report of the Secretary-Treasurer Douglas L. Cannon

MEMBERSHIP OF THE ASSOCIATION

Two hundred fifty-two (252) members of the Association continue in the service of their country. These, with 1332 remaining in civilian practice, give a membership enrolment of 1584 as of April 1, 1944. Nonmembers total 254, two of whom are in service. There has been an overall decrease of 26 in the number of physicians in the State since my last annual report to you.

DEATHS

Twenty-seven members of the Association have died since our 1943 meeting: Life Counsellor and President of the Association in 1935, Dr. William Moody Cunningham; Life Counsellors E. M. Prince and Russell A. Smith; Active Counsellor W. D. Wood, and members L. L. Armistead, W. C. Bailey, G. S. Barksdale, J. T. Brown, R. A. Burns, Z. B. Chamblee, B. F. Elliott, W. M. Gamble, E. M. Guthrie, R. N. Hare, Seale Harris, Jr., J. F. Hogan, C. L. Marks, D. M. Molloy, D. C. Moseley, F. E. Nabers, W. J. Nicholson, U. J. W. Peters, B. S. Pettus, John Prather, Frank Shackelford, J. A. Ward and L. H. Woodruff.

Dr. Seale Harris, Jr., who died in Brisbane, Australia, December 22, 1943, is the fifth member of the Association to give his life in the service of his country, the deaths of Drs. Josiah D. Bancroft, Frederick Page Boswell, John M. Clark and William Lee Tucker having been recorded in my report of a year ago.

STATUS OF COUNSELLORS-ELECT

At the last meeting of the Association, ten members were elected Counsellors. All qualified fully as required by the Constitution but Dr. R. M. Pool moved from the State after qualifying and his name has been removed from the roster. Those to be added to the Roll of Active Counsellors on Thursday morning are therefore J. Mac Bell, George A. Denison, J. Paul Jones, Hughes Kennedy, Jr., J. Otis Lisenby, James A. Meadows, J. Ralph Morgan, Rufus C. Partlow and Frank W. Riggs.

PRESIDENTIAL APPOINTMENTS

President Wilkerson reappointed Dr. Lloyd Noland delegate to the American Medical Association to serve in the 1944 and 1945 sessions of that body, and named Dr. E. D. Lineberry his alternate.

On the committees of the Association, President Wilkerson made the following appointments:

Public Relations—J. R. Garber.

Mental Hygiene—E. S. Sledge.

Maternal and Infant Welfare-Hughes Kennedy, Jr.

Cancer Control—J. P. Chapman.

Prevention of Blindness and Deafness—W. B. Hardy.

Postgraduate Study—G. O. Segrest.

Accidents and Industrial Hygiene—C. H. Ford. Archives and History—S. A. Gordon.

Physician-Druggist Relationships-W. M. Sal-

APPOINTMENTS TO BE MADE

Committeemen whose terms expire with this meeting are:

M. M. Duncan—Public Relations.

Frank A. Kay—Mental Hygiene. A. E. Thomas—Maternal and Infant Welfare.

K. F. Kesmodel-Cancer Control.

B. B. Warwick—Prevention of Blindness and Deafness.

Cabot Lull—Postgraduate Study.

Marcus Skinner—Accidents and Industrial Hygiene.

Toulmin Gaines—Archives and History.

Seale Harris, Sr.—Physician-Druggist Relationships.

It will be a responsibility of the next president to name their successors and to appoint a delegate and alternate to the American Medical Association for its 1945 and 1946 sessions to succeed Drs. A. A. Walker and G. O. Segrest whose terms will expire with the current year's meeting.

OFFICERS TO BE ELECTED

Officers to be chosen at this session are a president, a vice-president for the Northwestern Division, two censors for five years to succeed Drs. Lloyd Noland and J. D. Perdue whose terms have expired; and sixteen counsellors.

FINANCE

The accounts of the Association for the period January 1-December 31, 1943 have been audited by Crane, Harper and Wilson of Montgomery, and the audit constitutes the concluding pages of this report. In it will be found not only statements of cash receipts and disbursements but also a record of securities owned—all U. S. Government War Savings Bonds that have been purchased through authority given by the State Board of Censors.

CRANE, HARPER AND WILSON CERTIFIED PUBLIC ACCOUNTANTS First National Bank Building Montgomery, Ala.

Montgomery, Ala., Feb. 7, 1944. Officers and Members,

Medical Association of the State of Alabama, Montgomery, Alabama.

Gentlemen:

We have examined the cash accounts of the Treasurer of the Medical Association of the State

of Alabama for the year ended December 31, 1943, and submit the following statements:

Exhibit "A" Summary statement of cash receipts and disbursements for the year ended December 31, 1943.

Exhibit "B" Analysis of cash disbursements for the year ended December 31, 1943.

Exhibit "C" Securities owned, December 31,

In connection with our examination, we traced all recorded cash receipts to the bank's record of deposit, examined all cancelled checks as to amounts, signatures and endorsements and examined supporting vouchers and their distribution.

The balance of cash on deposit at December 31, 1943, as indicated in Exhibit "A," was verified by us.

During the year the savings account in the First National Bank of Mobile was closed. Of the amount on deposit in this bank, \$2,590.00 was used to purchase Series "F" U. S. Government War Savings Bonds, and the balance of \$136.16 was transferred to the savings account in the First National Bank of Montgomery.

Securities owned by the Association and located in the Safety Deposit Vault of the First National Bank of Montgomery, Alabama, were examined by us on January 25, 1944 in the presence of Dr. Douglas Cannon. A schedule of these securities is submitted as Exhibit "C."

Respectfully submitted, CRANE, HARPER & WILSON, By H. C. Crane, C. P. A.

\$16,777.21

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA SUMMARY STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED DECEMBER 31, 1943

Exhibit "A" Balance, January 1, 1943: First National Bank, Montgomery, Alabama

 Checking Account
 \$ 2,818.47

 Savings Account No. 27565
 1,123.07 \$ 3,941.54

 First National Bank, Mobile, Alabama Savings Account, No. 108691 Total Cash, January 1, 1943 \$ 6,655.49 Cash Receipts: Association: Counsellors \$ 970.00 County Dues 4,183,50 Roster of Association 1.00 Interest on Savings Accounts 23.46 \$ 5,177.96 Journal: Advertising \$ 4,356.24 1943 Division of Credit 553.02 Subscriptions 34.50 4,943.76 10,121.72

Cal Dichurcam autor (Fuhihit D)		
Cash Disbursements: (Exhibit B) Association	\$ 4,992.25	
Journal		
Balance December 31, 1943		\$ 5,202.04
Consisting of: First National Bank. Montgomery, Alabama		
Checking Account	\$ 3,931.56	
Savings Account, No. 27565	1,270.48	\$ 5,202.04
THE MEDICAL ASSOCIATION OF THE STATE OF ALA ANALYSIS OF CASH DISBURSEMENTS FOR THE YEAR ENDED DECEMBER 31, 1943 Association:	E.	xhibit "B"
Salary—Dr. D. L. Cannon Printing and Mailing Transactions—Annual Meeting	\$ 600.00 744.51	
Printing, Stationery and Office Supplies	195.40	
Postage Auditing	76.00 50.00	
Rental on Safe Deposit Box		
Refund of Dues	75.00	
Expense of Division and Committee Meetings Expense of Delegates to American Medical Association		
Premium on Treasurer's Bond		
Expense of Annual Meeting: Programmes \$ 167.60		
Jerome Cochran Lecturer		
Reporting 65.80		
Badges 53.00 Secretarial 13.30		
Miscellaneous 13.07	412.77	
Purchase of U. S. Government War Savings Bonds—Series F Journal: Salaries: Dr. D. L. Cannon, Managing Editor \$399.96 Dr. W. W. Wilkerson, Editorial Assistant 300.00 Luette Kilpatrick, Clerical Assistant 480.00 Catherine Schmidt, Clerical Assistant 10.00		
Printing, Addressing and Mailing Journals	\$ 5,392.96	\$ 6,582.92
Total Disbursements		\$11,575.17
THE MEDICAL ASSOCIATION OF THE STATE OF ALA	ABAMA	
SECURITIES OWNED DECEMBER 31, 1943		
DECEMBER 01, 1070	E	xhibit "C"
Redemp-	_	
Type Date of Purchase tion Value Frice 12-31-1943 Incr		Oate of Maturity aturity Value
20—\$500.00 Series C U.S. Gov-Oct. 1, 1938 \$ 7,500.00 \$ 8,400.00 \$ 900 ernment War Savings Bonds Numbered D 4 5 9 7 6 3C to D459782C, inclusive	0.00 Oct.	1, 1948 \$10,000.00
7—\$500.00 Series "F" U. S.July 1, 1943 2,590.00 2,590.00 Government War Savings Bonds. Numbered D191057F to D191063F, inclusive	July	1, 1955 3,500.00
*6—\$500.00 Series "F" U. S. Jan. 1, 1944 Government War Savings Bonds. Numbered D220060F to D220065F, inclusive	Jan.	1, 1956 3,000.00
Total <u>\$10.090.00</u> \$10.990.00 \$ 900		
*Included in our examination of securities but purchased subsequent	to Decemb	er 31, 1943.

Committee of Publication Douglas L. Cannon, Chairman

Of primary concern to the committee at this time are the difficulties attendant upon the publication of the Journal with so many of its usual contributors in service. A minimum of sixty papers annually are needed for a creditable publication. Scarcely half of these are furnished by the annual session, making it necessary that voluntary contributions be sought. An effort was made in this direction in February, and from ninety members of the Association who are accustomed to writing for journals of scientific nature four papers were received. Others to whom letters were directed in this connection promised to send papers but the great majority ignored the appeal. The committee is aware that physicians are burdened and can hardly assume additional work. On the other hand the Journal is their property and can succeed only to the degree they are willing to help. It is hoped that this further call for contributions will be proauctive, and that the Journal may be able to continue to serve.

The audit of the accounts of the Association, appearing in the report of the Secretary-Treasurer, reflects the condition of the fiscal affairs of the Journal. It will be sufficient here to state that in the 1943 calendar year receipts from advertising amounted to \$4,909.26, and that cost of publishing the Journal was \$5.392.96. Thus, except for \$483.70, the publication was self sustaining, and the difference was met from member and nonmember subscriptions.

In addition to the Journal, members received also the transactions of the 1943 meeting, cost of printing and distribution being \$744.51.

Committee on Public Relations

This committee devoted considerable time during 1943 to efforts in obtaining the passage of legislation in which the medical profession is interested. Success attained is given under the heading "State Legislation" in the report of the State Board of Censors. Failure to enact the amendment requiring examination of both parties to a marriage was a disappointment. However, it is believed that any other efforts would have been unfruitful of favorable results in the circumstances.

The bill introduced in the House setting up a Board of Chiropractors to pass upon the qualifications of this cult to treat diseases of human beings was defeated in the Committee on Health to which it was referred. Defeat is to be attributed to physicians who had discussed with their legislators the attitude of organized medicine and to members of the Association who appeared before the committee.

Much publicity was given through newspapers, periodicals, pamphlets and radio to the bill S. 1161 introduced in Congress on June 3, 1943 by Senator Robert F. Wagner of New York, for himself, and Senator James Murray of Montana. A similar bill was introduced in the House as H. R. 2861 on the same date by Representative John D. Dingell of Michigan. It is generally referred to

as the Wagner-Murray-Dingell Bill and under that heading is discussed more fully in the report of the State Board of Censors.

Through radio, press and lectures emphasis was placed upon the importance of cooperation on the part of the civilian population with the medical profession in every way possible to conserve the energies of physicians engaged in private and industrial practice. Persons were urged to go to the office of physicians whenever possible and not to call them at night except in emergencies.

B. F. Austin, Chairman J. R. Garber M. M. Duncan J. O. Morgan G. O. Segrest

Committee on Mental Hygiene

Your Committee on Mental Hygiene has had another year of necessarily restricted activities. With most of Alabama's extramural psychiatrists in the armed forces, with every member of the committee pushed beyond his reasonable capacity because of increased professional responsibilities and duties, ours could not be a year which fostered the growth and expansion of the psychiatric facilities of Alabama.

We have not been idle, however. We have continued our close affiliation with civilian groups of the State who share our interests. On numerous occasions we have provided literature, counsel and support to those working with present day problems of war psychology, juvenile delinquency and the like. We have supplied speakers for programs on the vital mental hygiene topics of the day. We have handled promptly many routine inquiries coming to the desk of the committee's chairman.

This war, even more than the last will bring psychiatry more and more to the attention of the public and the medical profession. Alabama needs to take heed and to shoulder its responsibilities in the field of mental hygiene. It cannot do this wisely and adequately without the support and leadership of the medical profession. We should all insist that the four-year medical school, which is now a certainty, provide abundantly and wisely for the teaching of psychiatry and psychosomatic medicine to its medical students, many of whom will reside among us and be our future leaders. We should no longer be content to exist as a state without any provision for the care of mild mental or psychiatric patients save behind the locked doors of a state asylum. We should be so in accord, so well informed, so determined in this respect that when the war is over we will hasten to obtain these facilities for our citizens. This objective cannot be accomplished by any committee alone-it can only come from the united efforts of the medical profession and the cooperation of public spirited citizens.

Your committee trusts that it has your confidence and respect when it points the way.

Frank A. Kay, M. D., C. M. Rudulph. M. D. Chairman E. S. Sledge, M. D.

Committee on Maternal and Infant Welfare

This report for the Committee on Maternal and Infant Welfare marks the chairman's tenth year as one of its members.

Obviously, there are many things that we might have accomplished. However, we thought it might be interesting to review the first statistical report rendered by the committee and compare it with the statistical report of the last year.

In 1934, in reporting for the year 1932, we called attention to the fact that there had been 63,393 births, with a maternal mortality of 473. For the year 1943, there were 76,878 births, with a maternal mortality of 296. To be exact, there were 13,485 more births in 1943 than there were in 1932, and there were only 296 deaths. This represents a saving of 177 lives.

One might ask, to what may this be attributed? Obviously, there are numerous reasons for this decline in maternal mortality in Alabama. It certainly is not due to any one single factor. However, we would like to show you what organized prenatal care is doing in the State.

Let us select a county with a large number of colored deliveries: Sumter County, for example. The statistics for this county are as follows:

Maternal Stillbirth Neonatal Mortality Mortality Mortality

Entire county	41.0	79.0	29.0
Non-clinic patients	156	320	78
Clinic patients	0	18	16

Reductions brought about by prenatal care are: maternal mortality 100%; stillbirth mortality 94%; and neonatal mortality 80%.

Suppose we take the largest county in the State as an example: Jefferson.

There were 12,908 deliveries, of which 7,688 were white and 5,220 colored. Of the 5,220 colored deliveries, 1,045 were clinic, and 4,175 were non-clinic patients.

Maternal Stillbirth Neonatal Mortality Mortality Mortality

Non-clinic patients	60	50	42
Clinic patients	19	27	22

This gives us a reduction of 68% in maternal, 46% in stillbirth and 80% in neonatal mortality.

It has been our objective to spread this type prenatal care throughout every county and into every doctor's office in the State. We want to thank you for the cooperation you have given us, and we sincerely hope that we can continue to count on you in the future, in the maintenance of these clinics.

During the past year a revolutionary program of medical care has confronted the practitioners of Alabama. This program of emergency maternal and infant care was inaugurated to insure adequate care for the wives and infants of men in the armed forces. Sponsored by federal agencies and approved by Congress, this plan provides for payment to participating physicians on a fixed-fee basis.

Your committee feels that by this time most of the doctors in the State are familiar with the

limitations and restrictions of this program. After actively participating in it, and after consulting with many physicians, your committee, while not agreed, does feel that, notwithstanding the objections that have been raised, it deserves our full cooperation.

It has been said that this program is poorly planned, unsatisfactorily administered, and is definitely paternalistic in many of its implications. It lowers painstakingly-erected standards of adequate maternal care by encouraging recognition of, and payments to, unqualified individuals. Some of our physicians prefer to render the service gratis rather than participate in a rather socialistic undertaking.

There are certain administrative duties that are necessary before one may participate in the program. It has been said that it is one step toward state medicine. Personally, we feel that the surest way to bring state medicine to Alabama is to fail to cooperate with existing agencies that have for their objective, first, the saving of maternal lives; and second, particularly the life of a soldier's wife.

When we stop to think of the hardship this extra duty is bringing upon us, suppose we think of the patient's husband for a moment or two. Ninty-nine chances out of a hundred, he did not ask for the very duty he is performing, while you are refusing to take care of his wife. His duty well done will mean peace, happiness and freedom for us the rest of our days.

The patriotism of Alabama physicians has never been questioned. Alabama has more doctors in the service than any other state. To that end we ask you to accept this program with all its limitations, and your full cooperation is expected.

A. E. Thomas, Chairman T. M. Boulware Hughes Kennedy, Jr.

Committee on Cancer Control

The Committee on Cancer Control is mindful of its limitations in trying to attain the objectives of the Medical Association of the State of Alabama. There is an element of hopeless futility in the endeavor to control a disease the origin of which and conditions under which activity begins have not been scientifically established. Yet, much has been accomplished, and still greater achievements are possible through continued diligent effort.

Cancer is a disease of great antiquity, having a historic span of four thousand years. During the past few generations, there has been a decided increase in its frequency until, at the present time, cancer has forced its way to second place in the nation as a cause of death, and to fourth place in Alabama. Intracranial lesions and nephritis are the only diseases surpassing it as a killer of men and women in our State. During the year 1943, the State Board of Health recorded 1,833 deaths from cancer, 1,271 among white persons, and 562 in the colored race. Accepting the ratio of 3 to 1, there are 5,499 living cancer victims in the State. This is a challenge to the entire medical profession, and to attack this problem your Cancer Control Committee

has made definite plans for a state-wide pro-

STATE APPROPRIATION

The most outstanding accomplishment in the way of cancer control was the enactment of the Cancer Bill by the State Legislature in 1943. This appropriation was made possible by the sustained efforts of the Women's Field Army, the State Health Officer, the Cancer Control Committee, and friends in the Legislature. Thirty thousand dollars will be available the first year, and fifty thousand dollars for the second year, to be used specifically for cancer control work. This has elevated Alabama from forty-first place to tenth place among the states doing anything along a cancer program.

This committee has had four meetings of its own group during 1943, and has met frequently with the executive committee of the Women's Field Army. From these meetings has evolved the following state program for cancer control.

I. Centralization of Organization

All of the cancer control activities have been centralized in the State Department of Health, and have been incorporated in the Bureau of Preventable Diseases, of which Dr. D. G. Gill is director. The Women's Field Army also has its headquarters in the same building. This will coordinate and simplify the cancer control program for the State. Since the state appropriation will have to be administered through the State Board of Health, it makes the centralization of our program even more necessary.

II. Educational Program for the Public

It is essential that an active educational program be conducted for instruction of the public regarding cancer. Certain accepted facts regarding the disease must be made available to every individual. Since it is the early cancer that offers hope of a cure, every person should know the earliest symptoms, and manifestations of functional disturbance, and the outward appearance of activity of lesions previously considered innocuous, in order that early and prompt medical aid may be obtained. This educational program will include the distribution of literature, posters, radio talks, moving picture films, and talks by medical authorities before lay groups.

The Women's Field Army has become the medical profession's greatest ally in promulgating this educational program. A remarkably successful campaign has been completed in 1943, through the indefatigable efforts of Mrs. Ray Meade of Birmingham, the State Commander. The messages of warnings and hope have been taken into every county of the State, to civic clubs, women's organizations, and into the high schools. Mrs. Mead's report of the activities of the Women's Field Army appears in the report of the Board

of Censors.

III. Education for the Profession

The educational needs for the profession become a part of the state-wide program for cancer control. As the public becomes more cancer conscious, through the activities of the various agencies in the State, it becomes more necessary for the doctors of the State to be likewise cancer minded. The program includes discussions of cancer problems at one or more meetings of county medical societies during each year. In a previous year a most valuable manual on cancer was sent to every physician of the State, and it is hoped that these manuals have been preserved and likewise referred to frequently. At district meetings a discussion of cancer should be provided for on the program. At frequent intervals throughout the year selected articles will appear in the state medical journal as communications from the cancer control committee.

IV. Cancer Clinics

The fourth phase of the state program calls for treatment of all indigent cancer patients, making application through regular channels. This marks a great forward step in our public health service. Clinics or groups of physicians need to be formed in different parts of the State for rendering this service. Certain standards have been formulated by the Cancer Control Committee according to the standards of the American College of Surgeons. The personnel of such a clinic must include a radiologist, a surgeon, a pathologist, and other specialists, and the equipment required will be 100 mgms. of radium and a deep therapy x-ray machine (200 kv). At the present time five such clinics have been recognized: two in Montgomery, two in Birmingham and one in Mobile. It is understood that three and possibly four more such clinics are being established.

PROCEDURES IN OBTAINING STATE AID FOR CANCER PATIENTS

1. Any licensed physician in the State may make application for any resident of Alabama who, in his opinion, has or may have cancer, and who, in his opinion, is unable to pay for diagnosis or treatment. Each application must have the approval of the county director of public welfare regarding the patient's indigency.

2. Application forms may be obtained through the county health officer. When completed, the forms are sent to the cancer control office in the State Health Department, Montgomery. If approved, the patient is advised to report on date and time determined at one of the cancer clinics.

3. Transportation will not be provided. Patients should have sufficient funds to get them back home.

At the present date 144 applications for state aid have been received, and prompt treatment has been authorized and carried out. No statistical results are yet available, but complete records are being kept, so that after a period of years the value of this program may be determined.

DIRECTOR OF CANCER PROGRAM

The set-up calls for a full-time, trained medical director of the cancer control program. Such a director would arrange the county medical society program on cancer. He would assist the Women's Field Army in the educational activities, and appear before various groups in the State desiring discussion of cancer. It has been a great disappointment that during war-time conditions, such director has not yet been found. We feel, however, that the successful development of this program, as well as a continuation of the state appropriation, may depend upon finding such a director. This is said with full appreciation of the valuable service already rendered by the director of the Bureau of Preventable Diseases, who has done what he was physically able to do in getting our program started in the right direction.

The committee takes this occasion to recognize the valuable assistance of State Health Officer. Dr. B. F. Austin, Dr. D. G. Gill of the Bureau of Preventable Diseases, and Mrs. Ray Meade, State Commander of the Women's Field Army, which has made possible the launching of this statewide program of cancer control in Alabama.

J. P. Chapman, Chairman H. M. Simpson Karl Kesmodel

Committee on Postgraduate Study

In last year's report the committee called attention to the fact that the director of the Department of Graduate Medicine of Tulane University had recommended that courses being conducted under the auspices of that institution be discontinued for the period of the present emergency. There being no alternative, the committee was forced to discontinue a program which had met with favor and enthusiasm, on the part of the Association's membership, since this phase of the program was begun April 3, 1939.

In its annual report upon the activities of and recommendations from the committee, the State Board of Censors concurred with the committee in authorizing with regret suspension of these courses.

In addition, since there had been considerable reduction in the annual income of the Association caused by the action of the Association in 1941 in not requiring its members on active duty with the armed forces to pay dues, the Board recommended discontinuance of the annual appropriation of \$1,000 for postgraduate study for the duration of the present emergency.

Since these circumstances and others, such as depletion of membership, gas and tire limitations, increased load of work and responsibility assumed by members carrying a heavy burden on the home front, have become intensified rather than diminished, the committee has refrained from trying to put into effect a substitute course of instruction which in favor would probably fall short of the plan the circumstances of war forced us to suspend.

The committee wishes to express sincere thanks to the Association membership, the Board of Censors and all concerned for their whole-hearted cooperation in the past, and hopes for a continuance of the courses of instruction when the present emergency is concluded.

In the meantime, the committee is open to suggestions from the Association membership. Such will be gratefully received and duly considered.

Ralph McBurney, Cabot Lull Grady O. Segrest

Committee on Four-Year Medical School

The Committee on the Four-Year Medical School has completed its assignment and wishes to submit herein its final report.

Having secured the cooperation of the medical profession by counties as already reported, the committee continued to have the help of various county societies throughout its efforts which was invaluable in securing the favorable action by the Legislature on our medical school bill. The committee drafted the bill, providing the four-year medical school as a school of medicine of the University of Alabama.

The important provisions of the bill are: Creation of a Commission to be appointed by the Governor to locate, build and equip the school; an appropriation of one million dollars (\$1,000,000) for building and equipment; an appropriation of \$366,750 annually for maintenance; and one scholarship of four hundred dollars (\$400.00) a year for each of the counties of Alabama.

The committee then sought to secure the interest and cooperation of the Governor, which efforts were fully compensated in the fact that Governor Sparks became enthusiastically interested and fully cooperated with the committee, lending his influence in securing favorable action by the Legislature. With the Governor's approval, Senator T. J. Jones of Perry County, member of this Association and Chairman of the Senate Public Health Committee, sponsored the bill in the Senate, and Hon. Chas. Norman, Representative from Bullock County and floor leader of the House, introduced and sponsored the bill in the House. Both of these gentlemen deserve the thanks of this Association for doing a good job of their assignment.

We appeared before the appropriate committees of the Senate and House, explaining the great need for medical education and otherwise canvassing the Senate and the House in favor of the bill.

Members of the medical profession from the various counties were communicated with by your committee and responded in rendering a great service interviewing their respective representatives in the Senate and the House.

We are happy to report that with the support of the Governor and the medical profession generally and with constant attention of your committee, the bill passed the Senate and the House carrying the full appropriation asked for—building and equipment, and an additional appropriation for maintenance without a dissenting vote in either Senate or House.

Carrying out the provisions of the bill is now in the hands of the Governor's Commission and the University authorities. With the continued support and cooperation of this Association, one of the leading medical centers of the country can be developed to serve the youth of Alabama, the general citizenship of the State and the graduate medical profession in furthering medical research and medical education.

The bill further provides a Medical Advisory Board of five physicians from this Association to be nominated by the Association to serve and advise the Board of Trustees of the University in (S. 35-Jones

medical school matters. At the proper time this matter should be brought before the Association to comply with the provisions of the Act in this regard.

There follows a copy of the Four-Year Medical School Act as passed by the Legislature and approved by the Governor.

ALABAMA GENERAL LAWS (Regular Session, 1943)

No. 89)

AN ACT

To create and establish a four-year medical school in the State of Alabama to be known as "The Medical College of Alabama," a school of medicine of the University of Alabama; to provide for its location, building, equipment, organization, operation, maintenance, ownership, management and control; and to make appropriations therefor from the General Fund or from any surplus fund created from the General Fund by the Legislature by whatever name called.

Be It Enacted by the Legislature of Alabama:

Section 1. That there is hereby created and established a four-year school of medicine in the State of Alabama to be under the sole management, ownership, and control of the Board of Trustees of the University of Alabama and to be known as "The Medical College of Alabama," a school of medicine of the University of Alabama.

Section 2. That there is hereby created a commission to be composed of nine Alabama citizens, in addition to the Governor of the State, who shall be ex officio member and chairman of the commission, to be appointed by the Governor and to be known as the building commission for the four-year medical school created and established in this act. The building commission thus created shall be referred to as "the commission," and it shall be charged with the duty and responsibility and clothed with the authority to acquire property by purchase or gift and to locate, establish, build, and equip said four-year medical college; provided, that in determining the location, planning the establishment and buildings, and providing the equipment the commission shall consult freely with the proper authorities of the University of Alabama and with the "Physicians Advisory Board" provided in this act, as it may deem wise, necessary, and helpful to it; and provided further, that the commission shall locate, establish, build, and equip said fouryear medical school to meet the approval of the Council on Medical Education and Hospitals of the American Medical Association and of the Association of American Medical Colleges, and the Board of Trustees of the University of Alabama. and the Governor. The commission shall begin its work as soon as practicable after the passage of this act by initiating the necessary preliminary studies and plans for the location, establishment, construction, and equipment of the medical school established in this act; and shall proceed with the actual construction and equipment as early and as promptly as the Governor may release the appropriation made herein in Section 4

of this act. As soon as the commission may find it practicable and possible to complete its task, as set out above in this section, or to complete its task to such point that it may regard its duties and responsibilities discharged to sufficient extent to permit opening and beginning the operation of the medical school authorized in this act, it shall be authorized formally to turn over to the Board of Trustees of the University of Alabama for operation, conduct, and maintenance, the property, buildings, improvements, and equipment acquired, established, and constructed by the commission, in whatever form of conveyance will be lawful and legal. Such conveyance shall include the unexpended balance, if there be any, for any further additions, supplies, or equipment, such balance to be expended by the Board of Trustees exclusively for the purposes specified and provided in Section 4 of this act as may be found necessary and needed by the said Board of Trustees of the University of Alabama. The commission is further authorized and empowered to rent or lease or receive as a temporary gift a building or buildings or quarters as a temporary measure, to meet possible emergency needs that may arise in any plan that may be decided upon by the commission in consultation and collaboration with the University authorities and the Physicians Advisory Board, to establish and begin the teaching of the junior and senior years in medicine, obviating the delay in beginning such teaching that would be necessary pending the location, establishment, building, and equipment of permanent accommodations and quarters for this purpose.

Section 3. That there is hereby created and established a board to be known as the "Physicians Advisory Board," consisting of five physicians who shall be members in good standing of the State Medical Association of Alabama and shall reside in different sections of the State of Alabama. The duties of the members of said board shall be to meet with the commission upon its call for the purpose of giving information and advice to said commission as to proper location, establishment, buildings, and equipment of said medical school, during the period of time occupied by the commission in locating, establishing, building, and equipping said medical school, and to meet with the Board of Trustees of the University of Alabama, or with three or more members of said Board of Trustees, at such times and places as may be mutually agreed upon, due notice of said meetings to be given by the Board of Trustees, for the purpose of giving information and advice to the trustees as to the proper maintenance and operation of the medical school. The first five members of the Physicians Advisory Board shall be appointed by the Governor, one for a term of one year, one for a term of two years, one for a term of three years, one for a term of four years and one for a term of five years; and thereafter all members of said board shall be elected by the Board of Trustees of the University of Alabama on nominations made by the State Medical Association or its authorized agents, for five year terms each. Vacancies shall be filled likewise by the Board of Trustees of the University of Alabama and the appointees

shall serve for the unexpired terms. The members of said advisory board shall serve without pay, but shall be reimbursed for their actual expenses incurred in the discharge of their duties, to be paid in the same manner as the expenses of the University trustees are paid. The Dean of the School of Medicine shall be an ex officio member of the Physicians Advisory Board and shall sit with it in its deliberations.

Section 4. There is hereby appropriated from the treasury of the State of Alabama or from any surplus fund created from the General Fund by the Legislature by whatever name called, the sum of one million dollars (\$1,000,000.00), which shall constitute a fund for acquiring land and for building and equipping the medical school. This amount or such portion as may necessary from time to time, shall be released from the treasury under the authority of the building commission created by Section 2 of this act, with the approval of the Governor, through such designated agent or agents as the commission may formally and definitely authorize and designate to make requisition therefor on the State treasury. Said appropriation shall be available from the time this act becomes effective in such amounts as may be determined and authorized from time to time by the commission, with the approval of the Governor, until the entire amount so appropriated has been released. The above appropriation is to be applied exclusively for acquiring sites and for buildings and equipment and expenses incident thereto in connection with the medical school. If for any reason the entire amount of the appropriation is not withdrawn and consumed by the commission for the purposes for which appropriated, and after the commission shall have completed its task of construction and equipment to sufficient extent that it shall have formally turned over to the custody of the Board of Trustees of the University of Alabama the medical school buildings as provided in Section 2 of this act, then such amount remaining in the appropriation not consumed or withdrawn shall carry over until a need has arisen for its practical application to the uses herein specified and it may be expended thereon as approved by the Board of Trustees and by the Governor exclusively for buildings or equipment. If there should be any amount of said appropriation finally not withdrawn and consumed for the uses herein specified, such amount shall be released from the State treasury to the custody of the Board of Trustees, with the approval of the Governor, to be deposited in a reserve fund to be applied from time to time for building, supplies, and equipment for the medical school after the opening of the medical school; provided, that no part of this appropriation shall at any time be expended for any purpose other than acquiring lands for and the building and equipment of said medical school. For the purpose of paying the expenses of the building commission created by this act there is hereby appropriated from the treasury of the State of Alabama, out of any funds not otherwise appropriated, the sum of twenty-five thousand dollars (\$25,000.00). This amount shall be used, and shall be expended upon order of the Governor, in payment of actual expenses of the commission, or any member thereof, in the discharge of the duties imposed upon it, or upon him by this act

Section 5. There is hereby appropriated from the General Fund of the State of Alabama the sum of three hundred sixty-six thousand seven hundred and fifty dollars (\$366,750.00) for each of the fiscal years ending September 30, 1944, and September 30, 1945, to be available from the time the medical school, in the opinion of the building commission and the governor, is ready for admission of students. Said appropriation shall be a maintenance appropriation for the benefit of said medical school and shall be made available in quarterly installments; and so much thereof as may be required each quarter for the proper operation of the school, as may be determined by the Governor, shall be drawn from the State treasury by the authorized agent or agents of the Board of Trustees of the University of Alabama, such quarterly installments to be released on January 1st, April 1st, July 1st and October 1st, of each year. This appropriation shall be deposited as a separate and distinct fund with the authorized treasurer of the University of Alabama and shall be applied by the Board of Trustees of the University of Alabama or its duly authorized agents exclusively to the operation, maintenance, and conduct of the medical school and to provide for equipment, materials, salaries, wages, and other expenses in connection therewith. No part of this appropriation shall be expended at any time or under any circumstances for any purpose except as provided in this act for medical education. Provided, that any appropriation which has already been made by the Legislature for the maintenance of a School of Medicine at the University of Alabama shall be credited to the appropriation hereinabove made.

The Board of Trustees of the Uni-Section 6. versity of Alabama is hereby authorized and required to establish a scholarship for each county in the State of Alabama in the amount of four hundred dollars (\$400.00) per year for the benefit of one resident of each such county, payable from the annual appropriation to the School of Medicine. To be eligible for this scholarship a person shall be a young man or woman of good character and shall have been accepted for matriculation by the authorities of the School of Medicine in accordance with the current standards and requirements of said school, which standards and requirements in turn must in every way meet the requirements for an approved medical school as fixed by the Council on Medical Education and Hospitals of the American Medical Association and by the Association of American Medical Colleges. The beneficiaries of said scholarship in every instance shall be designated by a majority vote of the Board of Censors of the County Medical Society of the respective counties, subject to the approval of the board of revenue or court of county commissioners or other county governing body, however designated, of the respective counties. It is further provided that applicants for admission to the freshman class of the medical school who are bona fide

residents of the State of Alabama and who meet the admission requirements of the school, including those approved by the Council on Medical Education and Hospitals of the American Medical Association and those of the Association of American Medical Colleges, shall have preferential consideration by the Committee on Admissions of the school.

Section 7. Since it is the purpose of this act to establish and maintain a standard four-year medical school to be administered by the University of Alabama, and since the University, in order to carry out that purpose, must itself necessarily continue to be accredited by the national and regional standardizing agencies, it is hereby expressly provided that appropriations made under this act, being set apart exclusively for the School of Medicine and for no other purpose shall not adversely affect appropriations made to the University in support of its other schools, colleges, divisions, and activities.

Section 8. It shall be the duty of the Board of Trustees to make to the Legislature of Alabama at each regular session thereof a full report of their transactions under this act and of the condition of the medical school, embracing an itemized account of all receipts and disbursements on account of said medical school by those charged with the administration of the finances thereof.

Section 9. The Board of Trustees of the University of Alabama is hereby given full power and authority to maintain and operate the School of Medicine created by this act wherever located, and to set, establish, and maintain standards of scholarship and teaching which shall be in accordance with standards approved by the Council on Medical Education and Hospitals of the American Medical Association and of the Association of American Medical Colleges, and to perform all acts and functions necessary or appropriate to carry out the provisions of this act as it relates to the proper and orderly maintenance and operation of said Medical School. Provided, however, that the Board of Trustees shall be under no duty to operate or to continue the operation and maintenance of said medical school unless and until adequate appropriations are received from the State of Alabama for that purpose.

Section 10. If any section or part of a section of this act be declared unconstitutional or void, such declaration shall not invalidate any other

parts or sections thereof.

Section 11. This act shall become effective immediately upon its passage and approval by the Governor, or its otherwise becoming a law.

Section 12. All laws and parts of laws in conflict with the provisions of this act are hereby repealed.

Approved June 2, 1943.

Since your Committee on the Four-Year Medical School has completed its assignment, it submits this as its final report and asks to be discharged.

W. D. Partlow, ChairmanE. V. CaldwellJ. P. Collier B. F. Austin
J. H. Blue
Emmett B. Frazer
P. P. Salter
A. M. Walker

S. A. Gordon S. L. Ledbetter Committee on Archives and History

Owing to increased duties due to the scarcity of physicians, and because of our inability to secure historians through PWA, no work has been done on the history of the State Medical Association. It would seem that this will have to be postponed till after the war.

M. Y. Dabney, Chairman G. F. Walsh

Toulmin Gaines S. A. Gordon E. B. Carmichael

Physician-Druggist Relationships

Most friendly relations between the Alabama Pharmaceutical Association and the State Medical Association have continued throughout the year. Your committee and other physicians were entertained at the druggists' annual banquet as well as at several other lesser functions.

Pursuant to recommendation of this committee, at the invitation of the Jefferson County Medical Society, the doctors and druggists held a joint meeting in the medical society's auditorium in June of the past year. Interesting and informative papers were read by Dr. Leon Richards, Dean of the School of Pharmacy of Howard College, and Mr. E. W. Gibbs, President of the Alabama State Board of Pharmacy. Other prominent guests were Mr. Charles Alley, President of the Birmingham Retail Druggists Association, Mr. V. L. Smith, Chairman of the Professional Relations Committee and Mrs. Thelma Morris Coburn, Executive Secretary of the Alabama Pharmaceutical Association.

The committee recommends that the Association request the Alabama Pharmaceutical Association to furnish an essayist from year to year to be given a place on our annual program. We feel that it would make for closer cooperation and at the same time bring information on the subject of pharmaceuticals, adding to and rounding out the educational function of our meetings.

Our attention has been called to the establishment of a Postwar Planning Board of the Alabama Pharmaceutical Association. The objectives set forth are:

- (1) Advancement of interest in pharmaceutical education. This not only applies to the student but also to the registered druggist.
 - (2) Keep drug items in the drug store.
 - (3) Improvement of working conditions.
- (4) Maintain and improve standards of education, business practices, ethics and cooperation with allied professions and associations, boards of health, federal and state narcotic agencies, and food and drug officials.
- (5) Propose new pharmacy laws and other legislation to protect the best interests of pharmacy and public health.
- (6) Create and maintain opportunity for maximum postwar employment.
- (7) Give unfailing support to the government of the United States and its allies in current and postwar problems.

For lack of space we are unable to give the objectives in greater detail. The points are well

taken and reflect a fine sense of responsibility. The State Pharmaceutical Association is to be congratulated on the quality of its leadership.

R. E. Cloud, Chairman Seale Harris, Sr. W. M. Salter

Miscellaneous Business

Resolutions introduced by Drs. W. D. Partlow, Harvey Searcy, Seale Harris, B. F. Austin and Frank L. Chenault were referred by the President to the Board of Censors. The resolutions and action thereon will be found in the report of the Board.

Afternoon Session, Tuesday, April 18 2:00 P. M.

SECTION ON SURGERY

Dr. T. Brannon Hubbard, Montgomery, Chairman

Dr. Philip K. Burwell, Montgomery, Secretary

Dr. J. Otis Lisenby, Atmore, read a paper on Bronchiectasis which was discussed by Drs. Chas. J. Donald, Jr., Birmingham, W. D. Gaines, Atmore, and Norman Van Wezel, Montgomery.

Dr. Earle F. Moody, Dothan, presented a paper on Intestinal Obstruction which was discussed by Drs. Brannon Hubbard, W. F. Harper, Selma, and E. V. Caldwell, Hunts-

ville.

Dr. Kenneth Luckie, Selma, dealt with Urinary Complications Following Sulfonamide Therapy and the paper was discussed by Drs. J. Henry Goode, Tuscaloosa, E. D. Lineberry, Birmingham, E. V. Caldwell and Frank Jordan, Huntsville, and Brannon Hubbard.

Dr. J. O. Morgan, Gadsden, read a paper on Total vs. Subtotal Hysterectomy which was discussed by Drs. Claud Johnson, Montgomery, and C. N. Carraway, Birmingham.

Dr. I. P. Levi's subject was What the Surgeon Should Know of Radiology in Treating Malignancies and the paper was discussed by Drs. Dan Donald and Hugh Linder, Birmingham, and Brannon Hubbard.

SECTION ON PEDIATRICS

Dr. H. P. Dawson, Montgomery, Chairman Dr. Alice Hill Pye, Montgomery, Secretary

Dr. W. A. Daniel, Montgomery, presented a paper on Fibrocystic Disease of the Pancreas which was discussed by Drs. Hughes Kennedy, Jr., Birmingham, H. P. Dawson and J. Sam Smith, Montgomery, and Leon S. Smelo, Birmingham.

Dr. Vera B. Stewart, Birmingham, read a paper on Diabetes Mellitus in Infancy Under One Year—With Presentation of Case, which was discussed by Dr. Leon S. Smelo.

Dr. J. H. Baumhauer, Mobile, dealt with the Treatment of Chronic Intestinal Indigestion with Vitamin-B Complex and Liver Extract, and his paper was discussed by Dr. H. P. Dawson.

Dr. Ruth R. Berrey, Birmingham, read a paper on Breast Feeding which was discussed by Drs. Wallace Clyde, Birmingham, Kermit Pitt, Decatur, Hughes Kennedy and Stewart Welch, Birmingham, and H. P. Dawson and W. A. Daniel.

Evening Session, Tuesday, April 18 7:30 P. M.

SECTION ON MEDICINE

Dr. F. C. Stevenson, Montgomery, Chairman Dr. D. J. Long, Montgomery, Secretary

Dr. G. O. Segrest, Mobile, read a paper on The Nervous Patient which was discussed by Drs. F. A. Kay, Tuscaloosa, and Seale Harris and H. S. Ward, Birmingham.

Dr. W. Lindsay Miller, Gadsden, presented a paper on the Spastic Colon, and the paper was discussed by Drs. Norman Van Wezel, Montgomery, and Ivan Berrey, Birmingham.

Dr. John E. Walker, Columbus, Ga., discussed the Significance of the Wide S Wave Pattern of the Electrocardiogram, and the discussion was participated in by Dr. Norman Van Wezel and by Capt. William G. Hartnett, Veterans' Facility, Montgomery.

The Value of the Preemployment Examination in an Industrial Health Program was dealt with by Dr. Paul W. Auston, West Point, Ga., and his contribution was discussed by Dr. G. A. Shipman, Birmingham.

Dr. J. F. Alison, Selma, presented a paper on Chronic Bronchitis in the Aged, and it was discussed by Dr. Kellie Joseph, Birmingham.

SECTION ON EYE, EAR, NOSE AND THROAT

Dr. B. F. Jackson, Montgomery, Chairman Dr. Bruce Holding, Montgomery, Secretary

Some Phases of Ocular Pathology were presented by Dr. Dan Hagood, Montgomery, and his paper was discussed by Drs. Harvey Searcy, Tuscaloosa, and J. D. Perdue, Mobile.

Dr. Herman W. Frank, Gadsden, dealt with the Management of the Complications of Intraocular Surgery, and his paper was discussed by Drs. Bruce Holding, Montgomery, and Harvey Searcy.

ery, and Harvey Searcy.

Dr. E. R. Nodine; Montgomery, read a paper on Ocular Surgery for the General Practitioner which was discussed by Drs. Bruce Holding, Harvey Searcy and J. D. Perdue.

Second Day, Wednesday, April 19 9:00 A. M.

GENERAL SESSION

President Wilkerson, Presiding

Dr. D. S. Reese, Carrollton, was recognized as Georgia's fraternal delegate; as was also Dr. Neal Owens, fraternal delegate from Louisiana.

Dr. Owens, Assistant Professor of Clinical Surgery (Plastic), Tulane University of Louisiana School of Medicine, New Orleans, read a paper on Some Recent Trends in the Advancement of Plastic Surgery.

Dr. F. E. LeJeune, Professor of Otolaryngology at Tulane, discussed the Prognosis and Treatment of Cancer of the Larynx.

Dr. Randolph Lyons, Professor of Clinica! Medicine, Tulane University, presented a paper on the Schemm Treatment of Chronic Heart Failure with Edema—With Report of Illustrative Case.

The Jerome Cochran Lecture was delivered by Dr. Tinsley R. Harrison, Dean of Southwestern Medical College, Southwestern Medical Foundation. Dallas, Texas, his subject being the Value and Limitations of Laboratory Tests in the Practice of Medicine.

Miscellaneous Business

The Secretary of the Association announced vacancies as follows in the College of Counsellors:

1st. Congressional District—1: W. A. Stallworth's first term of seven years has expired.

2nd. District—4: The first terms of seven years of L. V. Stabler and C. K. Weil have expired. M. H. Hagood and T. B. Hubbard are to be elevated to Life Counsellors.

4th. District—1: C. W. C. Moore's first term of seven years has expired.

5th. District—2: J. J. Walls is to be elevated to Life Counsellor. W. D. Wood is deceased.

6th. District—2: C. T. Acker's first term of seven years has expired. J. P. Smith has resigned.

7th. District—2: E. T. Brown's first term of seven years has expired. Robert L. Hill of Winfield is to be elevated to Life Counsellor.

8th District—2: The first terms of seven years of J. O. Belue and C. A. Grote have expired.

9th District—2: R. M. Pool has changed his place of residence. E. M. Mason is to be elevated to Life Counsellor.

Counsellors and delegates from these districts were called to meet in the ballroom of the Whitley Hotel at 7:30 P. M., Wednesday, April 19, for the purpose of making nominations to fill the vacancies.

Afternoon Session, Wednesday, April 19

2:30 P. M.

GENERAL SESSION

Dr. Roy R. Kracke, Dean of Alabama's four-year medical school, was presented and addressed the Association briefly.

Dr. Otis L. Jordan, Tuscaloosa, read a pa-

per on Caudal Analgesia.

Capt. Fred T. Becker, Northington General Hospital, Tuscaloosa, dealt with Penicillin.

Dr. Morris Fishbein, Editor of the Journal of the American Medical Association and of Hygeia, the Health Magazine, addressed the Association on Planning for Postwar Medical Services.

Mrs. N. T. Davie, Anniston, and Mrs. W. J. Rosser, Birmingham, representing the Woman's Auxiliary to the Association, pledged the cooperation of the Auxiliary in combating the federalization of medical practice.

The discussion on Penicillin was continued by Col. I. William Nachlas, also of the Northington General Hospital staff.

Dr. Marye Y. Dabney, Birmingham, read a paper on the Present Status of Sterility Studies in Women to conclude the afternoon's program.

Evening Session, Wednesday, April 19

8:00 P. M.

Dr. Cobb Pilcher, Associate Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tenn., read a paper on the Treatment of Craniocerebral Wounds.

Dr. F. E. Stockton, Birmingham, discussed Some Common Pyogenic Infections of the Skin.

Dr. Charles Nelson Leach, recent repatriate, addressed the Association and acquainted its members and their guests with health and sanitary conditions in Japanese internment camps.

The Association recessed for a reception and dance at the Beauvoir Country Club beginning at 10:00 P. M., a courtesy of the Montgomery County Medical Society.

Miscellaneous Matters

During the course of the session, commercial exhibits were presented by the following:

A. S. Aloe Company, St. Louis, Mo. Parke, Davis and Company, Detroit, Mich.

C. B. Fleet Company, Inc., Lynchburg, Va. Durr Drug Company, Montgomery. C. V. Mosby Company, St. Louis, Mo. Wyeth, Incorporated, Philadelphia. Borden Company, New York. J. A. Majors Company, New Oreans. McKesson and Robbins, Birmingham. Lederle Laboratories, New York. Sharp and Dohme, Philadelphia. White Laboratories, Newark. Doho Chemical Corporation, New York. Philip Morris and Co., New York. Van Pelt and Brown, Richmond. Fairfield Brothers and Foster, New York. E. R. Squibb and Sons, New York. Poloris Company, Jersey City. Gilliland Laboratories, Marietta, Pa.

(The proceedings of the last day's session will appear in the June Journal.)

STATE DEPARTMENT OF HEALTH

BUREAU OF ADMINISTRATION

B. F. Austin, M. D. State Health Officer in Charge

PREVENTION OF TYPHOID FEVER

The typhoid fever season will soon be here. Although, in this part of the country at least, this form of illness never entirely disappears from the health picture, it normally becomes a much more serious problem during the warm-weather months. It is well, therefore, for forward-looking Alabamians, especially Alabama parents, to become increasingly wary of this danger as the warm days of spring give way to the hot days of summer.

While, unfortunately, the complete conquest of typhoid fever is still a promise of the remote future, rather than a fact of the immediate present, there are encouraging signs pointing to the eventual reaching of that goal. In 1914, the year the first World War began, no fewer than 32.6 Alabamians out of every 100,000 not only developed typhoid fever but actually succumbed to it. Compare that mortality rate with the provisional 1943 rate of only 0.5 typhoid fever death for every 100,000 residents of this State—one death per 200,000 population, to say it another way. When we do that, we feel a sense of pride of accomplishment. This satisfaction is marred only slightly by the fact that seven more Alabamians died of this form of illness last year than in 1942, with a resulting slight increase in the typhoid death rate. These year-to-year fluctuations are only to be expected. The really important thing is that the long-time trend is downward.

There is also much encouragement in the morbidity reports. As recently as 1934, cases of typhoid fever were being reported from all parts of Alabama at the average rate of one every 13 hours—678 for the year. By 1942 the average had dropped to about one case every 60 hours—only 147 for the year. Unlike typhoid deaths, reported typhoid cases did not increase last year but dropped to 119—28 fewer than those reported in 1942. Thus last year's reported cases averaged approximately one every three days. This is a remarkable reduction when we consider how greatly Alabama's population increased during that ten-year period.

This record of continuing and increasing success in the conquest of one of the great disease enemies of the human race is almost without parallel in medical annals. If all diseases had been as effectively controlled as this one has been, the life span of the average American or Alabamian would be much longer than it is, the present heavy financial burden of illness would be much easier to carry, and a sick person would be something of a rarity. But, let me repeat, the battle is not yet won. There is much

heavy fighting to be done. Typhoid fever will undoubtedly claim many lives and darken many homes before this disease can be wiped from the records.

The curbing of typhoid by inoculation made a halting start in 1896, nearly half a century ago, when two persons volunteered to serve as human guinea pigs. The following year four thousand British soldiers serving in India received this form of protection. At the turn of the century, while the Boer War was in progress, 100,000 Tommies were inoculated with a newly developed bacterin, or vaccine. In 1909 the United States War Department offered it to those soldiers who might wish to avail themselves of it but left the choice up to them. About two years later, however, that choice was withdrawn, and it was made compulsory. The results in terms of reduced typhoid morbidity and mortality were remarkable. Dr. Milton J. Rosenau wrote of them as follows in his authoritative volume, Preventive Medicine and Hygiene:

"During 1913 the army had only four cases of typhoid in the enlisted force of over 80,000 men. Two of these occurred in men who had not been vaccinated; another was among the troops in China, who had been immunized in 1911 and the history of the case was in doubt. In six years, 1909 to 1914, there was only one death from typhoid in the United States Army, while the rate in the country at large averaged over 16.5 per 100,000. During the participation of America in the World War (April 1917 to November 1918) 4,122,930 men served in the United States Army. There were 1,529 cases of typhoid, with 227 deaths. This low incidence was clearly due to the results of typhoid inoculation. Most of the cases and deaths were due to careless exposure."

The part played by typhoid inoculation in protecting the health of the G. I. Joes of the present war will not be known with anything like completeness until some time after the conflict has been brought to an end, but much is already being said, both officially and unofficially, about the excellent health of the nation's defenders scattered all over the world. With so many of them serving in areas that form ideal breeding places for typhoid germs, it would be terrible to contemplate the probable loss of life and weakening of the nation's striking power in those regions if this protective shield were not available.

It of course was not available during the Spanish-American War, and the contrast be-

tween conditions during the present war and those prevailing during and immediately after that earlier conflict is striking. We can be thankful that the home-coming of American troops from the battles and training fields of World War II will not be marred by the return to civilian life of large numbers of invalids and semi-invalids to spread typhoid and other diseases among their families and friends. The home-coming of some of the soldiers of that earlier war was described by a writer for *The Chicago Times-Herald*. In a dispatch from Indianapolis under date of September 2, 1898, he wrote:

"The One Hundred and Fifty-Seventh Regiment, Indiana volunteers, arrived here this morning from Fernandina, Fla., being carried by a train in four sections, the last of which arrived at 9 o'clock.

"Several thousand people gathered at the Union Station to cheer the returning soldiers, but when they came out of the coaches the voices that would have been raised in gladsome shouts responded only to sighs and the smiles of welcome were changed into looks of inexpressible pity for the haggard and wan soldiers who left here four months ago for the scenes of war. So pathetic was the scene that many women burst into tears and many strong men turned away to hide their emotion. Two privates who left Indianapolis with the regiment were not with their comrades. They lay in long black boxes alongside the tracks, the object of curiosity to the hundreds of people. . . .

"The arrival of the hospital train was most pathetic. Several cars in the forward part of the train were filled with soldiers suffering from attacks of fever and malaria. They lay in bunks in two tiers and paid little attention to the people about them. Here and there a pale blue-coated young man thrust his head out of the window and feebly waved a battered campaign hat as the train passed, and then sank exhausted on his bed. Others too sick to rise smiled feebly at their comrades. Occasionally a thin hand stretched from a window and slowly waved a greeting."

We may see scenes similar to that in this country in this good year 1944 or in later years. But the brave young men lying on hospital beds and cots will not be victims of typhoid fever. Of that we may be certain.

The development and increasing use of typhoid vaccine is not the only reason why G. I. Joe of World War II is most unlikely to suffer from typhoid fever in anything like the way that his grandfather of the Spanish-American War did. His military superiors are as eager to protect him against the small rod-shaped bacillus, or germ, re-

sponsible for this disease as it is to protect him against the effects of this germ after it enters his body. In other words, they are leaving nothing to chance in their effort to safeguard the purity of the water, milk and food he eats. His medical guardians know, for instance, that this germ may be admitted to the intestinal tract on almost anything that is put into the mouth. While naturally many of the relatively few cases still occurring are due to impure water, others are traceable to impure milk, butter, cream, ice cream, cheese, etc. Several cases of typhoid in the city of Washington were found to be due to infected cream used in coffee, on cereals, etc. In 1916 an outbreak in Alabama's largest city of Birmingham was traced to ice cream. Ice cream was found to be responsible for outbreaks in Chattanooga, Washington and Helm, California. Thirty-five cases and four deaths among students of Wesleyan University were attributed to the eating of infected oysters served at fraternity banquets. It was found that a large percentage of the typhoid fever cases occuring in Belfast, Northern Ireland, between 1877 and 1901 were the result of eating typhoid-infected cockles and mussels taken from water that had been polluted with sewage. Other typhoid cases and deaths—at least 1,500 of the former and more than 100 of the latter were reported in an epidemic that followed the shipment of infected oysters to a number of cities in various parts of the country, including Washington, New York, Chicago, Memphis, Cincinnati and San Francisco. Other food products which are believed to be capable of spreading typhoid fever are celery, lettuce, watercress and radishes. However, the part played by these vegetables in the prevalence of this form of illness is considered small.

The protection of soldiers and sailors against typhoid germs in food and drinking water did not receive much attention in 1898. But it does now and has done so for many years. Water supplies are carefully tested and watched to be certain that they are absolutely free of germs. Before the Army or Navy will sign a contract for milk or dairy products it leaves nothing undone to guarantee that no soldier or sailor will be exposed to germs harbored in any of those products. The same vigilance is exercised in the purchase of other food products.

This vigilance on the part of Army and Navy authorities is duplicated in civilian life. The public health agencies are as eager as they are to maintain an impassable barrier between the typhoid fever patient, or carrier and the rest of the population. Public water supplies are frequently examined to be certain that they harbor no germs. Dairies that are considered unsafe in this respect are prevented from selling their products until the danger has been removed. Other food-producing and food-dispensing agencies are kept under surveillance.

Unfortunately, in a state like Alabama with a population that is predominantly rural, a large proportion of the population is not served by public water supplies and commercial dairies and therefore does not benefit from the careful supervision of them. However, those not enjoying such protection can protect themselves and their loved ones, first, by seeing that the milk and water they drink and the food products they consume are produced under sanitary conditions, and, second, by taking advantage of the immunity provided by typhoid vaccine. This is furnished free by the State Department of Health to private physicians and county health departments in order that no one may be denied its protection because of the cost. The approach of the typhoid season should be a warning to all Alabamians, and all residents of other states too, for that matter, that they should give themselves the practically complete assurance that, whatever other diseases the summer may bring, it will not make them victims of typhoid. Those who do so will not only be doing themselves a great service but will also be making a notable contribution to the eventual complete elimination of typhoid as a disease problem in Alabama.

After all is said and done, it is the people—our patients—who are going to decide on what system of medicine shall prevail. It is unfortunate that until recently the public has been subjected to a vigorous and sustained campaign conceived and sponsored by reformers and politicians who have been telling their story. It is high time now for physicians who have a much better and more direct approach to this same public, to tell their story. With sincerity and frankness toward our patients our efforts cannot fail.—Nebraska M. J., April 1944.

BUREAU OF LABORATORIES Samuel R. Damon, Ph. D., Director

SPECIMENS EXAMINED

JANUARY 1944

Examination for diphtheria bacilli	
and Vincent's	419
Agglutination tests (typhoid, Brill's,	
undulant fever)	393
Typhoid cultures (blood, feces and urine)	402
Examinations for malaria	372
Examinations for intestinal parasites	1,487
Serologic tests for syphilis (blood and	
	46,297
Darkfield examinations	14
Examinations for gonococci	2,555
Examinations for tubercle bacilli	1,555
Examinations for Negri bodies	
(microscopic)	55
Water examinations (bacteriologic)	1,222
Milk examinations	2,085
Miscellaneous	242
-	

Total 57.098

FEBRUARY 1944

Examination for diphtheria bacilli and Vincent's 42	0
Agglutination tests (typhoid, Brill's,	
undulant fever) 44	3
Typhoid cultures (blood, feces and urine) 41	3
Examinations for malaria 41	6
Examinations for intestinal parasites 1,77	1
Serologic tests for syphilis (blood and	
spinal fluid) 35,69	1
Darkfield examinations 2	5
Examinations for gonococci	9
Examinations for tubercle bacilli 1,57	2
Examinations for Negri bodies	
(microscopic)5	7
Water examinations (bacteriologic) 1,08	4
Milk examinations 2,15	
Miscellaneous 27	

Total 47,169

BUREAU OF MATERNAL AND CHILD HEALTH

J. S. Hough, M. D., Acting Director FACTORS BEHIND FOOD HABITS

Contributed by Amanda Tucker, M. A., Nutrition Consultant

Too frequently we hear "I don't like that" when inquiry is made into why various foods are left on pupils' plates in school lunchrooms. Particularly is this true of turnip greens, whole wheat bread, and to a less extent milk and eggs. The reason for the children's dislike of these and other important foods must be found and overcome be-

fore there will be any very decided improvement in their food habits. It is of the greatest importance to understand the pattern of their dietary habits in the home, since these have a deeper significance than a casual observer is aware of.

Food habits are an integral part of an individual's life and, whether good or poor, are the result of environment, training and reaction to experiences.

If family food habits were improved and less pressure exerted upon children to eat particular foods there would be less resistance, resentment and emotional upsets encountered.

Income controls the standards of living to so great an extent that it is always given due consideration in relation to the diet. While income alone is not responsible for poor diets, we all know those within the low income groups have less adequate diets than those with a higher income. Food is usually the first body need to suffer when the income is insufficient and the individual has a feeling of pride in his visible standards of living. He may feel that only he needs to know what food he is consuming whether adequate or inadequate in kind and quanti-Therefore, an understanding and appreciation of the mental attitudes, living habits, and social settings of an individual are especially important when developing or improving a dietary plan.

Nationality, racial traditions, local customs, beliefs and practices affect the choice and preparation of foods and play a large part in the food habits of families and individuals. However, through the school lunch program throughout the country, it is hoped the younger generation will bring about improvements in the traditional family food patterns. A lack of knowledge of ways of purchasing, storing and preparing food, as well as of food values, greatly influences food problems in the family. Concerted efforts to better the nutritional status simply by sufficient production and better distribution will fall short of the goal unless corresponding and congruent changes are made in the patterns of consumption. Proper selection, preparation and palatability are also vital factors in the cultivation of good food habits.

Sleep and rest are important factors in dietetic improvement. The quality of these

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is dependent upon the home environment and the habits of the individual and the family. Physical fitness for play depends largely upon proper food intake. However, fatigue from overactivity or overexcitability or lack of proper amount of sleep and rest should be avoided, especially in children, as it may affect the appetite unfavorably and the body's ability to utilize the food properly.

Vice Admiral Ross T. McIntire, Chief Navy Surgeon and Chairman of the Investigating Draft Board said: "Any time a country has as many rejections as this one (U. S.), it's serious." He is certain of one thing: education of coming generations toward sensible diet and bodily care is necessary.

BUREAU OF COMMUNICABLE DISEASES

D. G. Gill, M. D., Director

PREVALENCE OF COMMUNICABLE DIS-EASES IN ALABAMA

1944

			E.E.
	Feb.	March	March
Typhoid	4	0	8
Typhus	32	20	10
Malaria	49	84	81
Smallpox	1	0	3
	1578	2143	1026
Scarlet fever	71	54	73
Whooping cough		133	141
Diphtheria		15	43
Influenza		679	2477
Mumps		371	210
Poliomyelitis		ī	2
Encephalitis		0	1
Chickenpox		175	222
Tetanus		1	4
Tuberculosis		205	216
Pellagra		2	17
Meningitis	64	43	13
Pneumonia		488	814
Trachoma		0	0
Tularemia	2	ĺ	2
Undulant fever		7	2 3
Dengue	^	0	0
Amebic dysentery		ĭ	0
Cancer	197	140	0
Rabies—Human cases	0	0	ŭ
Positive animal heads		16	
- Collins dilling licedo			

As reported by physicians and including deaths not re-

ported as cases.

*E. E.—The estimated expectancy represents the median incidence of the past nine years.

Atypical Pneumonia-The treatment of primary atypical pneumonia at the present time is symptomatic and supportive. Complete bed rest. a daily fluid intake of 3,000 ml. or more, and an easily digestible diet are advisable. Opiates may be given for cough, headache, and malaise, since in some patients these symptoms are difficult to suppress. Analgesic or antipyretic drugs with marked diaphoretic activity are inadvisable, particularly for patients in whom sweating is a prominent symptom. Oxygen therapy is desirable if anoxemia is severe.—Am. J. Pub. Health, Apr. '44.

BUREAU OF SANITATION T. H. Milford, M. S., in S. E., Director

THE PRIVY PROGRAM

PROBLEMS IN CONNECTION WITH IT

Contributed by W. H. GILMORE Sr. Public Health Engineer

Criticisms have been made from time to time since 1927 of "the policy of permitting the local sanitation officers to give advice for and approval to only one type of construction for the disposal of human excreta in rural areas." Many have argued that "the cost of the approved type is prohibitive for the very group most in need, and that modifications should be made."

These and similar questions arose immediately within the health department's own forces when the proposal was made to set up some measure for sanitation. Prior to the setting up of any measure or standard the Alabama program had sunk so low as to become ineffective and was proving to be a waste of money of those participating. It was therefore discrediting the health organization. The program was fully directed in each individual county without state guidance other than the instruction from the State Health Officer to "build sanitary privies." While this multiplicity of designs was being installed with little or no limits to minimum cost, few such privies were built in the rural areas. Most were built in municipalities through the action of police powers.

The first state action to set up a measure was one which simply limited the size of the pit. While this increased the cost slightly it was necessary to insure a reasonable measure of service. This action was fought by some as an invasion of local county health officer prerogative. After a few more years of heterogeneous construction and operation the health officers appointed a committee which met with the State Health Officer and his representatives and there were adopted in 1927 standards to correct the then existent unsatisfactory situation. There were two designs (a) an all wooden type, and (b) a similar wooden superstructure supported by a concrete slab with a cast iron riser or stool. These are the measures or standards used today with little or no change. Standards are recognized as absolutely essential to sanitation by all successful sanitarians and county health departments.

The all wooden standard, (a), was taken from North Carolina where it was stated 100,000 had been built. It was simplified by omitting one seat hole and improved by enlarging the pit space and providing a firmer foundation at an additional cost of only a few cents.

The concrete slab, cast iron riser standard, (b), used the North Carolina type house and a base which departed radically from any construction then in use. The house or superstructure is today the standard in practically all the southern states. Most southern states have also adopted base plans similar to Alabama's, but are building an inferior type at an added administrative cost through the substitution of a concrete riser for the cast iron.

Alabama's type (b) design was adopted for several sound reasons:

- 1. The all wooden type, (a), required carpenter work superior to the knowledge of the people, and hence would never become a privy which the average person could build without aid.
- 2. The maintenance cost of this type, (a), was expensive and put the sanitation officer in a treadmill, thereby wasting public funds.
- 3. The true cost of this type, (a), was only \$1.50 to \$2 less than type (b).
- 4. Type (b) was simple of construction, suitable to mass installation, lowered maintenance cost, provided cheaper monthly cost, and relieved the health department of administrative costs for repair and maintenance

While type (a) is permitted standard, there is not a sanitation officer in this State who feels that he would be doing a property owner a favor or the health funds of the county justice in building this type. It therefore is not used except at temporary camps, saw mills, turpentine camps, etc. Even here the management often selects type (b) as cheaper due to its superior salvage value.

The fact that, after full analysis, experience and trial, the Alabama health organization does not use type (a) is probably the reason some people labor under the misapprehension that we have and permit only one type of approved or standard privy.

With reference to the argument that "the

cost of the approved type is prohibitive for the very group most in need," it may be stated that the group among which privy work is most effective is the population of small incorporated towns. This was determined years ago by our typhoid statistics (Maxcy and Leach). It can be stated that our major problem has been solved here as there are few municipal corporations in Alabama today where this group has not been served. The cost of sanitation to the owner by the standard privy, (b), over a twelve-year period is from twenty-five to thirty cents a month. This type has replaced the box and can in all cities with the exception of Montgomery and Tuscaloosa at a saving of from twenty-five to thirty cents per month. By abolishing the can system and substituting type (b) privy we estimated (at the time a sanitary survey was made) that Montgomery alone could save the poorer population group \$18,000 a year. The Montgomery city officials have recently adopted an ordinance, modeled after the "Model Ordinance," and the box and can privies are being replaced by the type (b) privy as fast as labor and materials will permit.

Many people, we feel unjustifiably, refer to the rural group as the group of the greatest privy need. This implication that cost of the standard privy is the factor which is preventing sanitation was not borne out by the experience of the county health departments in their efforts at sanitation when a hole in the ground with a tow sack as a screen qualified as a measure of sanitation. Also, it is not conceded that the cost of the approved type is prohibitive to the rural population any more than to the poorer classes of the towns which it has not proved to be.

Looking further into the cause of failure then and now, to install privies for the population residing outside of municipal corporations we are confronted with the same causes today as then. Reducing the price of the privy, at a loss of efficiency and effectiveness, will not bring sanitation to the rural areas any more than it did when privies were cheap. Realizing the reasons for success in the incorporated areas, it has been attempted through the Legislature to lay the same foundation for rural work as that which exists in the municipal corpora-

tion. This is a permissive right, to be exercised at the option of the governing body of the county, to install sanitation on an installment payment plan, if need be on a mandatory basis as affects the individual property owner, the same as is now in effect in the municipal corporation. To date several attempts to get this proposal considered by the Legislature have been unsuccessful.

The necessity of such a bill can be visualized if the large population group (share croppers, tenant farmers, etc.) is considered. It is apparent that neither this group nor the landlords can be reached by price reduction or education. As a general rule, neither is willing to spend money for the benefit of the other. An analysis of the rural population in all but a few of the Alabama counties will reveal the great number of persons beyond the reach of any voluntary measure the health department can take.

Price reduction is not desirable below a point when the privy installation would require an indirect subsidy in installation and maintenance from health funds nor is it desirable below a point where the cost to the owner does not represent a true value of sanitation return.

In order to learn what Alabama's sister states are doing in reference to privy costs, the Chief Engineer and Director of the Bureau of Sanitation, on June 28, 1939, wrote the sanitary engineers of eleven southern states the following:

"Relative to sanitation, I shall appreciate your advising me at your convenience of the average contract cost of installing pit privies, in your state, which comply with plans and specifications recommended by you. The amount desired is for a "turn key" job, which does not receive any subsidy, as from WPA or other agency, and which utililizes all new materials as indicated by your plans.

"I shall also appreciate your sending me a copy of the plans and specifications for earth pit privies now recommended and used in your state."

The replies were not fully satisfactory but are tabulated below:

Georgia: Contract price \$25. "An average cost of materials and labor on WPA installation follows: materials \$13, labor \$16, total \$29."

Florida: Contract price not given. "We have been using the pit privy recommended in the Public Health Service's last supplement to their bulletin. This is the concrete slab with the riser set at a diagonal."

Arkansas: Average contract price \$45. "It is cur understanding these prices range from \$35 to \$50 per single unit installed (including material) with an average price of about \$45."

Kentucky: Contract price, average \$30. "The cost would range from \$25 to \$35, depending on the location and the number that would be ordered which could be built at a central plant."

Mississippi: Contract price, average \$34.50. "The contract price to the Farm Security Administration has varied from \$32.50 for labor and materials to \$36.50."

South Carolina: Contract price \$27. "The total cost, therefore, for labor, supervision, and materials has been \$27 for the fiscal year just ended. In my opinion, this very closely approximates the cost which might reasonably be expected; however, this work was not done on a contract basis."

Tennessee: The reply was uninterpretable.

Texas: Contract price \$55. "I believe for your records you should take the average cost as shown by the Work Projects Administration state office in San Antonio, Texas, which is \$55." Virginia: Contract price \$24. "We consider the

Virginia: Contract price \$24. "We consider the concrete slab privy, as outlined in the enclosed bulletin, as our standard, and the wood slab privy, also shown in the bulletin, as temporary construction."

"We think \$24 per unit would be a fair average cost for concrete slab construction."

The average contract price at that time for the Alabama type (b), concrete construction privy, was \$27.50 for rural areas.

The plans received from these other states were examined and the indications were that Alabama was building a more permanent, less costly administered privy system at equal or less cost than her sister states.

In none of these states is the rural problem solved, nor is it hardly touched. It is believed that if the bill prepared for the Legislature were passed, Alabama would be the first state in the South, if not in the Union, to solve its rural sanitation problem. Even then the job would require many years to complete.

Breast Tumors—Every questionable lump in the breast should be considered as malignant until proven to be benign. Any recent growth which is firm or craggy, over which the skin is flattened or adherent, or toward which the nipple is depressed or deviated, is usually a carcinoma and requires immediate treatment. The shadow of the growth may be shown on the roentgen film or by transillumination. Clear fluid cysts and a normal breast are translucent; fibroadenoma, blood and cancer give a shadow.

Biopsy, as it opens lymph spaces and may displace malignant emboli. should be used only under conditions that will enable an immediate radical operation, should the growth prove to be cancer.—Kunz, Northwest Med., April '44.

BUREAU OF VITAL STATISTICS Ethel R. Hawley, Acting Director

PROVISIONAL MORTALITY STATISTICS

REPORTED BIRTHS, STILLBIRTHS, DEATHS FROM CERTAIN IMPORTANT CAUSES AND RATES'-ALABAMA, FEBRUARY 1944, 1943, 1942

	Number of Deaths Registered— February, 1944			Rate (Annual Basis)			
Births, Stillbirths, and Causes of Death	White	Colored	Total	1944	1943	1942	
Births (exclusive of stillbirths)	**	**	5469 159	23.4 28.2	27.7 27.0	24.1 32.8	
Deaths (exclusive of stillbirths)	1156	983	2139	9.2	8.8	10.6	
Infant Deaths: Under one year Under one month	132 86	144 74	276 160	50.5 29.3	47.3 24.6	59.7 34.3	
Typhoid and paratyphoid fever 1, 2	1		1	0.4			
Epidemic cerebro- spinal meningitis 6 Scarlet fever 8	9	1	10	4.3	2.6	1.4	
Whooping cough 9 Diphtheria 10 Tuberculosis, all	5 2	3	8	3.4	2.2	2.3 1.8	
forms 13-22 Malaria 28	38	71	109	46.7	46.9 1.8	50.8 0.9	
Syphilis 30 Influenza 33 Measles 35 Poliomyelitis 36 Encephalitis 37	57 9	29 44 5	37 101 14	15.8 43.2 6.0	15.0 28.8	18.6 34.9 1.8 0.9	
Encephalitis 37 Typhus fever 39 Cancer, all forms	3		3	1.3	0.9	0.4 0.9	
45-55 Diabetes mellitus 61 Pellagra 69 Alcoholism 77	92 15 2 3	43 12 1 1	135 27 3 4	57.8 11.6 1.3 1.7	54.4 12.4 2.6 1.3	61.2 21.8 5.0 1.4	
Intracranial lesions	121	102	223	95.5	74.8	95.2	
Diseases of the heart 90-95	224	165	389	166.6	178.7	189.4	
Diseases of the arteteries 96-99 Bronchitis 106 Pneumonia, all	12 4	13 1	25 5	10.7 2.1	8.0 1.3	10.9 0.9	
Pneumonia, all forms 107, 109 Diarrhea and en- teritis (under 2	79	79	158	67.7	73.9	92.9	
years) 119 Diarrhea and enteritis (2 years	5	4	9	3.8	3.5	2.7	
and over) 120)	4 7	1 2	5 9	2.1 3.8	0.9 5.3	0.9 4.1	
obstructn 122 Cirrhosis of the	11	6	17	7.3	5.3	6.8	
liver 124 Nephritis, all forms	8	2	10	4.3	5.3	4.5	
130-132 Diseases of puer-	86	57	143	61.2	73.4	83.4	
peral state 140-150 Puerperal septice-	7	16	23'	40.9	26.4	47.3	
mia 140, 142a, 147 Other puerperal causes 141-150.	1	7	8	14.2	6.2	16.4	
exc. 142a, 147 Suicide 163, 164 Homicide 165-168 Accidental deaths	6 14 7	9 3 13	15 17 20	26.7 7.3 8.6	20.2 4.0 7.1	31.0 8.2 10.4	
(exc. motor vehi- cle) 169, 171, 195 Motor vehicle 170 All other causes Ill-defined and un-	62 17 196	41 9 118	103 26 314	44.1 11.1 134.5	42.9 11.0 126.5	56.2 24.5 160.4	
known causes 199-200	48	140	188	80.5	80.1	94.7	

^{*}Birth and death rates per 1,000 population; infant death rate per 1,000 live births; stillbirths per 1,000 total births (inclusive of stillbirths); from specific cause per 100,000 population; from puerperal causes, per 10,000 total births.

Dental Rehabilitation-The major cause of rejection cited in analyses of reports of physical examinations of Selective Service registrants was that of dental defects. Yet this situation certainly cannot be blamed upon the dental profession of America any more than other physical defects can be laid to any shortcomings in the service of the medical profession.

Man has always been prone to await for physical pain as a warning of some ailment, but not always is there pain to indicate a weakening of the physical structure. Even when pain exists too often it indicates a neglect that defies the ability of any physician to remedy the damage already done. The problem is painly one of health education.

An outstanding approach to dental education and dental rehabilitation is being carried on by the little publicized dental corps of the Army and Navy. The lowering of requirements to meet the demands of the Services has added to the work of these Corps, but their achievements in caring for the men will certainly have a tremendous effect on the entire profession in the years of peace ahead.

According to a recent report approximately fourteen thousand men of the dental corps have furnished more than a million new dentures, filled more than thirty one million teeth, provided more than fifty thousand bridges, repaired approximately two hundred and twenty thousand dentures, and have given more than three and a quarter million prophylactic and pyorrhea treat-

This imposing record, and the continuance of the care of the teeth of every man in service, should advance dental education far more than any peacetime program could do in years of effort. Certainly the majority of our military forces are going to be more conscious of the value of proper and adequate dental care when they return to civil pursuits. Therein lies a vital issue for the dental profession of this country—the necessity of forging strong peacetime educational and professional programs in order that the great gains now being made may not be lost due to neglect or indifference on the part of either the doctor or the patient.—Rhode Island M. J., April 1944.

Immunization in Pediatric Practice—Every child between 6 and 12 months of age should be immunized against whooping cough, diphtheria and smallpox. Under certain conditions, he should also be immunized against tetanus, scarlet fever and typhoid fever. Immunization procedures directed towards the prevention of whooping cough, diphtheria and smallpox are best performed during the first year of life by the private physician. This is for the protection of the individual during the early years when these diseases are most dangerous to life. To make sure that all parents understand the importance of early immunization, it has been suggested that the state medical societies take the initiative and send to the parents of every newborn child a leaflet stating the simple facts of immunization procedures and the danger of neglecting them.— Huenekens, Wisconsin M. J., April '44.

^{**}Not available.

BOOK ABSTRACTS AND REVIEWS

A Manual of Medical Parasitology. By Clay G. Huff, Sc. D., Professor of Parasitology, University of Chicago. Cloth. Price, \$1.50. Pp. 88. Chicago: University of Chicago Press, 1943.

This small book is intended only as a guide to the study of medical parasitology and should be used as a supplement to standard textbooks. It is the outgrowth of a mimeographed manual used in class work at the University of Chicago and provides a surprising amount of condensed information relative to the more important animal parasites of man.

With appropriate diagrams, the anatomical structures and general characteristics of the life cycles of the various classes of parasites, together with brief accounts of the morphology, life cycle and pathogenicity of the chief species, are presented. The clinical and epidemiologic groupings of the species of trematodes, cestodes and nematodes should be especially helpful to students.

Keys for insect identification, together with selected methods for diagnosis, including blood film preparation, examination of feces and serologic and intracutaneous tests, are included.

S. R. Damon.

Psychosomatic Medicine. The Clinical Application of Psychopathology to General Medical Problems. By Edward Weiss, M. D., Professor of Clinical Medicine, Temple University Medical School, Philadelphia; and C. Spurgeon English, M. D., Professor of Psychiatry, Temple University Medical School, Philadelphia. Cloth. Price, \$8.00. Pp. 687. Philadelphia and London: W. B. Saunders Company, 1943.

Here at last is a sensible practical presentation of a subject which has long been a distasteful one to most medical practitioners. The rise and gain in popularity of psychosomatic medicine is one of the latest developments in our profession, and can be compared in importance with the new chemotherapeutic discoveries. It is easily seen that psychosomatic medicine is gaining high favor among the medical profession for more and more papers are being presented at conventions on this subject, and now a new periodical has been issued to further the cause. There is probably no field of medicine that is more abused than psychiatry and very few practitioners know how to handle even the mildest of mental disorders; so it can be understand that it behooves all of us to know more about psychosomatic medicine since it is a moderate estimate that onethird of the patients seen daily are suffering from a psychosomatic disorder.

This book divides medical practice into three large groups: those patients who are suffering from physical disease; those suffering from mental disease, and those suffering from a combination of the two.

Weiss and English have integrated the combination of mental and physical disease, and present a simple outline form of this combination and call it psychosomatic disease. The neuroses

are, for simplicity of discussion, divided into two main types according to severity of reaction. The first group includes conversion hysteria, neuro-asthenia, anxiety hysteria, and compulsion neurosis; the second group; manic depressive psychosis, schizophrenia, and the psychopathic personality.

This book is so constructed that the busy practitioner can read the first two chapters and the last four and get a general idea of the subject. Between these chapters one finds seventeen chapters of discussion on psychosomatic problems as they relate to the various individual systems. There is a great deal of space devoted to the gastro-intestinal, cardio-respiratory, and the genito-urinary system, plus the addition of seventy-three case reports which help to make the reading matter more realistic.

It is of interest to note the emphasis the authors have placed on childhood impressions as being the cause of many of the functional disturbances, and the most interesting of these is the proven fact that bottle-fed babies have more gastro-intestinal neuroses than breast-fed babies, the cause being that bottle-fed babies do not get the maternal warmth and feeling of security which goes with breast feeding.

There is also a chapter devoted to military psychosomatic medicine which is well balanced and will appeal to military doctors. There is not much said about alcohol or drug addiction in this book but this will probably be added in future editions.

This book is the first of several in the past twelve months on psychosomatic medicine and is timely, and should do much to improve diagnosis and treatment of psychosomatic disorders. It is well written and can be read from time to time without confusion, as each chapter stands alone. The more one reads in this book, the more he or she realizes how much we must be missing when we do not consider the psychic as well as the somatic side of medicine in our diagnosis. This book can be highly recommended to the medical profession.

Philip K. Burwell.

Handbook of Nutrition. A Symposium Prepared Under the Auspices of the Council on Foods and Nutrition of the American Medical Association. Cloth. Price, \$2.50. Pp. 586. Chicago: American Medical Association, 1943.

This is a compilation of twenty-five pertinent articles on various phases of nutrition. Each article is written by an authority in his or her field. Physicians in particular will welcome this opportunity to find so much reliable nutrition information combined in one volume.

The index is a decided advantage, as are also the references on each page.

The Council on Foods and Nutrition of the American Medical Association has rendered a distinctive service by making this material avail-

able in one book, a service for which all who are concerned with better nutrition are most grateful.

Amanda Tucker.

The Principles and Practice of Industrial Medicine. Edited by Fred J. Wampler. Cloth. Price, \$6.00. Pp. 593, with 34 illustrations. Baltimore: Williams & Wilkins Company, 1944.

"In "The Principles and Practice of Industrial Medicine," Dr. Wampler and 32 outstanding contributors have presented the fundamentals of industrial health and hygiene. Almost all of the phases of public health in industry have been presented, with the possible exception of dental hygiene. The engineering and medical methods of making an appraisal of industrial environments are very carefully presented and show how the various governmental agencies cooperate with one another to carry out such investigations. The toxicologic, physiologic and pathologic considerations of many of the common toxic substances found in industry are presented in a brief, concise way. There are also sections regarding industrial nursing, nutrition, women in industry, compensation and rehabilitation. Complete plans for the organization of medical departments and facilities in industry are outlined. On the whole the book is carefully written and is suitable for a textbook for those concerned with public health and industrial hygiene problems of industrial medicine.

George A. Shipman.

Traumatic Injuries of Facial Bones. By John B. Erich, M. S., D. D. S., M. D., Consultant in Laryngology, Oral and Plastic Surgery at the Mayo Clinic, Assistant Professor of Plastic Surgery, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota; Diplomate of the American Board of Plastic Surgery; and Louie T. Austin, D. D. S., F. A. C. D., Head of Section on Dental Surgery at the Mayo Clinic. Associate Professor of Dental Surgery, The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. In Collaboration with the Bureau of Medicine and Surgery, U. S. Navy, Cloth. Price, \$6.00. Pp. 600, with 333 illustrations, Philadelphia and London: W. B. Saunders Company, 1944.

This atlas contains the result of a great deal of forethought and effort. According to the pictures, it gives the impression that management of traumatic injuries of the facial bones is comparatively simple. Certainly the atlas makes such management practical.

The volume is presented in a simple outline form, most of the details being opposite the pictures. It is in reality a collection of procedures which is based upon experiences at the Mayo Clinic, which experiences are respected highly in view of the satisfactory results and the few complications. In addition to the surgical viewpoint, certainly the Department of Photographs and Art played a major part in the production of this atlas.

The technique of wiring of teeth, of external splinting, of reduction of fractures, etc., are well illustrated and briefly handled and from the viewpoint of the general practitioner will help clear up in his own mind some of the procedures that are used. The application of a plaster head

cast is given in detail since this forms the basis of many of the traction appliances.

The text is very much up to date since it includes the external pin fixation method which is comparatively new. The data are given in a didactic form in a logical, concise outline manner and cover everything, including not only the method of reduction, fixation, etc., but also the means of feeding the patients and the necessary medications.

A practical point for the general practitioner to know is the means of distinguishing whether a fractured nose is exuding cerebral spinal fluid or whether it is only mucus. If the secretion stains the handkerchief and makes the texture of the handkerchief feel as if starched, it is then mucus. If the secretion stains the handkerchief but does not change the texture of the cloth, it is cerebrospinal fluid. Throughout the entire text are similar practical procedures, too numerous to mention.

Except for the introduction to methods and principles used in management of facial bone fractures, the atlas is primarily for the dental surgeon and the specialist in facial surgery. From the viewpoint of these two groups of physicians the volume is very much worth having. From the viewpoint of the general practitioner a rapid perusal is sufficient and will probably serve him adequately.

Norman Van Wezel.

An Introduction to Food and Nutrition. By Henry C. Sherman and Caroline S. Langford, Columbia University, New York. Cloth. Price, \$2.00. Pp. 292. New York: The Macmillan Company, 1943.

An Introduction to Foods and Nutrition is divided into four parts. It is very practical and can be applied in our every day public health. The first section is a discussion on individual and national importance of nutrition. The authors discuss the importance of nutrition from a personal and national standpoint, which is so necessary at the present time.

The second section is entitled "The Maintenance of Good Family Nutrition: Differences in Need Due to Age, Sex, and Occupation." An explanation of calories in carbohydrates, fats and proteins, and the part they play in good nutrition; minerals, fats, and water soluble vitamins are quite simply explained.

Part three is "Foods: Their Properties, Preservation and Preparation." There is a thorough discussion of the following topics: first, milk and its products; second, meats, fish, poultry, eggs and nuts; third, fruits and vegetables; fourth, breadstuffs and cereals, fats and sweets; fifth, preparation of food to retain nutritive values.

The last section of this book deals with the planning of meals and management of food supplies.

An Introduction to Foods and Nutrition summarizes with clarity and conciseness the needs of normal nutrition and, in a very practical way, encourages a unified knowledge of food and nutrition to become a functional part of household management and of family life and thought.

Myrtle M. Letford.

AMERICAN MEDICAL ASSOCIATION NEWS

SAYS MEDICAL EDUCATION MUST BE MAINTAINED DURING THE WAR

JOURNAL DECLARES CONGRESS MAY HAVE TO BE CALLED ON TO ASSURE CONTINUOUS FLOW OF GRADUATES TO MEET NEEDS FOR DOCTORS

Unless a continuous flow of medical graduates can be assured by Selective Service or by the War and Navy departments, everyone at all interested will have to take the matter directly to the Congress and the President, The Journal of the American Medical Association for April 29 declares in an editorial which points out that the critical shortage of physicians now existing makes an adequate schedule for replacement a national necessity. The Journal says:

"According to the most recent directive issued by the national headquarters of the Selective Service System, preprofessional students of medicine, dentistry, veterinary medicine and various other fields will be liable to early induction into the Army if they have not matriculated and engaged in actual classroom work in schools of medicine, dentistry and veterinary medicine prior to July 1, 1944. Unfortunately this directive of the Selective Service System, issued on April 11, does not take into account the fact that acceleration of the medical curriculum, the registration of freshman classes every nine months and the varying dates on which different medical schools converted their activities from the old schedules to the wartime accelerated program have combined to change completely the dates of admission in many medical schools. Thus, one freshman class is admitted in May, another in June, two classes in July and August, twenty-one classes in September, twenty-five in October and three in November. If the directive issued by the Selective Service System on April 11 is not modified, many prospective freshmen medical students in fifty-three schools will have their status threatened. Thus far representatives of all the agencies interested in medical education have sought to obtain an extension of date to Oct. 1, 1944, but without

"Recently the following memorandum was circulated under the auspices of the Association of American Medical Colleges to the deans of medical schools:

After consideration of all the factors involved, it is the recommendation of the Executive Council that medical schools whose next incoming class is scheduled to begin instruction not later than next October matriculate on June 30 all civilian students accepted for that class who are under occupational deferment and assume technical responsibility for the class room instruction in appropriate subjects, which may include courses in the premedical sciences conducted in the university, particularly in instances where students must complete their minimum premedical requirements.

"Several deans have indicated that they may not follow this recommendation, since it might appear to be a direct evasion of the Selective Training and Service Act. Certainly it is unfortunate that medical education should even have to consider evasion or subterfuge in order to maintain continuity of medical education during the war.

"A recent conference of the Surgeons General of the Army, the Navy and the Public Health Service with the Procurement and Assignment Service brought forth emphatic agreement that some means of providing an uninterrupted flow of medical students is fundamental to the nation's health and welfare. The indeterminate attitude of the War Manpower Commission on this question has served to interfere seriously with the morale of medical students and teachers, and with the quality of medical education.

"Enough has been said in the press and elsewhere to indicate that a critical shortage of physicians now exists and that an adequate schedule for replacement is a national necessity. Since the beginning of the Selective Service program, the status of professional students has been continuously a matter of doubt."

as well as treatment.
E. W. STOKES, Medical Director, Established 1904. Telephone-Highland 2101

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THE VALUE AND LIMITATION OF LABORATORY TESTS IN CLINICAL MEDICINE

TINSLEY R. HARRISON, M. D. Dallas, Texas

There is a shadow which hangs over the minds of our profession. This shadow is the fear of permanent control of our lives and our work by governmental agencies. Personally, I do not share this fear, because there is nothing in the history of the American people which indicates that they would allow such an unwise step to be taken. Surely the people realize that food, warmth, shelter, clothing, the processes of justice and sound programs of insurance are nearly, if not quite as important, to human welfare as is the care of the sick. Most of us are spiritual disciples of Thomas Jefferson and hence disagree completely with the cynical remark of Alexander Hamilton who referred to the people as "a great beast." We believe in that true democracy which our people have defended for three hundred years and are once more actively engaged in defending. If this democracy is sound and worth defending at all, it necessarily follows that the people will not be permanently deluded into believing that one of those functions which is essential to human welfare, namely, the care of the sick, can be subjected to rigid governmental control unless all essential functions are similarly regulated. They must realize that if the practice of medicine is made an island of socialism in a sea of capitalism, the quality of a great profession and the service which it can render will necessarily deteriorate. If

the spirit of America survives, then we can be reasonably sure that ultimately the spirit of our profession will also survive.

Nevertheless there is a danger—of small magnitude, in my opinion—that temporary but violent dislocations may occur in the relationship of physicians to the public. If such changes do occur we have no right to blame the politicians alone but must also look within ourselves and search out our own shortcomings. It is my purpose to mention several of these briefly and then to dwell at some length on the one which is most familiar to me from personal experience.

- 1. Our relationships with our fellow physicians are not always healthy. Many persons, and I among them, believe that the members of the medical profession are truly remarkable in their high sense of honor and in their unselfish devotion to the welfare of their patients. On the other hand, candor compels the admission that our profession is cursed by jealousy, which was properly called by Dryden "the jaundice of the soul." This fault, which is well known to most intelligent laymen, possibly does more than anything else to create distrust of physicians and to cause many people to lend a responsive ear to those who desire to produce sudden and violent changes in our system of medical practice.
- 2. We do not always practice what we preach. We are proud of this America as a country of equal opportunity, but at the same time we deny equality of opportunity to some physicians who are just as competent as ourselves. We should cease discrimi-

Jerome Cochran Lecture, delivered before the Association in annual session, Montgomery, April 19, 1944.

From the Departments of Experimental Medicine and Internal Medicine, Southwestern Medical College.

nation against those who have come to our country because of persecution by foreign tyrants. We should support a movement whereby these men are subjected honestly and fairly to professional criteria and ethical standards just as rigid as those which native Americans must meet. Once a man has met the test let him be received as a friend and fellow scientist rather than held at arm's length and viewed with suspicion. Are we in the South, who have descended from Indian-fighting frontiersmen or saddle-bag physicians, thrilled or frightened by that honest competition which built America? Do we believe in the spirit as well as the letter of the Declaration of Independence and the Bill of Rights? Are we prepared to support whole-heartedly those principles for which our young men are so ably fighting? Let each of us face these questions in that spirit of fair play and willingness to compete which built our nation, in that attitude of kindliness and decency which gave birth to our profession, and with that honesty of mind which makes a man content to live with himself.

3. We tend at times to glorify the mechanical rather than the intellectual and emotional aspects of our work. Even intelligent laymen often think of a good surgeon as only an artisan of supreme skill. Every physican knows this to be a misconception and each of us appreciates the importance to a surgeon of excellent training, broad knowledge and keen judgment, in addition to mere dexterity. The public should be educated away from its admiration of the surgeon's hands and toward an appreciation of his head. It must learn the trite aphorism that the truly fine surgeon is not so much the one who knows how to operate but the one who understands when, and especially when not, to operate.

This trend toward overemphasis of the mechanical aspects of medicine has invaded all phases of practice and now even the members of the profession are beginning to worship at what may be the wrong altar. Thus, as new and objective methods of studying disease are developed there seems to be an increasing tendency to neglect the older and subjective methods. It would be decidedly unfitting for an individual such as myself, whose professional career has been devoted in large measure toward applying the techniques of physiology and

chemistry to the study of disease, to belittle the value of the laboratory approach either in research or in the care of patients. However, even useful techniques may become harmful when they are applied on such a scale as to cause needless expense to patients or are so glorified as to lead to the neglect of simpler and more useful procedures. The present day tendency toward a five-minute history followed by a five-day barrage of special tests in the hope that the diagnostic rabbit may suddenly emerge from the laboratory hat is professionally unwise and economically unsound. Its inherent errors may be best exposed by considering the questions which the physician should ask himself in order to make a complete diagnosis on a given patient.

(a) What is the lesion? The answer to this question can best be obtained by a judicious combination of history taking, physical examination and various laboratory procedures, of which the x-ray is likely to be the most important in many instances.

(b) How do the symptoms arise? Often no serious attempt is made to answer this question and the physician assumes that some personal physiologic variant or even some demonstrated structural abnormality is responsible for a symptom, when such is not the case. Thus, a woman aged 32, complaining of weakness, may be told that her trouble is due to "low blood pressure," when actually in that particular individual the observed values of 100 65 may indicate health rather than illness. A properly taken history might reveal that the weakness is recurrent, lasts for several hours at a time, and is invariably accompanied by rapid and irregular beating of the heart, such palpitation being so mild that the patient does not mention it unless specifically questioned. Once the suspicion of paroxysmal auricular fibrillation has been created in the mind of the physician by a proper history a careful search is naturally made for early thyrotoxicosis, minimal rheumatic heart disease and less common causes.

Let us consider another example. A patient complains of upper abdominal pain. Physical examination, electrocardiograms and gastrointestinal x-rays are negative. A non-functioning gallbladder is found and removed, but the pain persists. Finally, the patient, having expended several hundred dollars, seeks false solace from so-called

Christian Science and becomes an enemy of organized medicine. Perhaps this unfortunate train of events might have been avoided if a careful history had been taken in the first place. Then it might have been learned that the patient was concerned not about the pain, which was mild, but about its possible significance, which was associated in her mind with the recent death of a friend from abdominal carcinoma. One also might have found that the pain, while not related to eating, was often relieved by defecation or the expulsion of flatus, and tended to be aggravated when green vegetables were eaten in large quantity. Then the distention of the colon with air might have reproduced the pain. If so, a lowresidue diet, belladonna, and, above all else, reassurance as to the insignificance of the cause of the pain would probably have produced relief. The patient would have kept her slightly diseased but asymptomatic gallbladder and would have remained a friend both to her own physician and to organized medicine.

Such examples might be multiplied many times and most of them would lead to the same general conclusions. If physicians want to learn how symptoms are produced they must take very thorough and complete histories, make careful physical examinations, arrive at a suspicion as to the probable diagnosis and then prove it by one or two special tests. The utilization of laboratory procedures will usually be both unsuccessful and unnecessarily expensive unless one already has a clue as to the diagnosis from the physical findings or—more commonly—from the history.

We now come to the third question which the physician must ask himself if he wishes to arrive at a complete diagnosis.

(c) Why is this patient unhappy? Here the answer can only come from the history. An electrocardiogram cannot tell us about palpitation due to the fear of an unwanted child; an x-ray cannot reveal an abdominal pain caused by a jealous wife; laboratory methods may demonstrate much about structural disease, but they tell us nothing about the impact of such structural disease on the patient as a whole. This impact often leads to more unhappiness and to more actual symptoms than does the original organic disease process. Thus, I have again

and again seen patients with minor and essentially asymptomatic structural cardiac disease in whom most distressing complaints were present as the result of the anxiety induced by the patient's thoughts about heart trouble. In order to relieve such complaints the physician must provide that reassurance which can only be properly provided after he has separated those symptoms due to the structural lesion from those due to the neurotic state. Such a separation can often be achieved only by means of a thorough history.

The important point of the discussion is that objective methods alone, important as they are, can rarely reveal the most significant features of a patient's illness. These can come only from a most painstaking history, with a detailed inquiry into the exact nature of the patient's complaints. Unless the medical schools are going to train men to do this, unless the physicians are going to take the time to apply such training, and unless the people are going to learn to appreciate the importance of such an approach, there is some danger that gradual loss of faith in the profession may create in the public a state of mind conducive to undesirable changes in our present system of medical practice.

The foregoing statements should not be interpreted as indicating any lack of appreciation of the modern diagnostic techniques. On the contrary, it seems obvious that almost all of these techniques are valuable when properly applied and that some of them, such as the radiogram of the chest, are being utilized too infrequently. In fact, there is serious doubt as to whether the medical schools should persist in regarding diagnostic radiology as a specialty. Probably in the future every young physician will utilize the x-ray, much as he now does the stethoscope, enthusiastically but imperfectly. Obviously, radiotherapy should remain a specialty in order to protect the patient. Probably certain difficult types of diagnostic radiology, such as gastrointestinal fluoroscopy, will likewise remain a specialty. However, it seems difficult to believe that the average practitioner will fail to obtain for his patients the benefits of the x-ray examination as applied to the chest and to bones. There will, of course, remain a very important place for the radiologist, who will

J.M.A. Alabama June 1944

perhaps do all of the radiotherapy and the more difficult diagnostic procedures, and will also serve as consultant for the physician who is himself doing the simpler x-ray work. This would be an improvement over our present system, whereby many patients are failing to obtain the benefits of the x-ray, and others are being subjected to a large number of unnecessary radiologic procedures, largely because the physicians are failing to secure and properly interpret an adequate story of the patient's complaints.

Another laboratory instrument which merits particular comment is the electrocardiograph. This instrument is valuable in several fields, and of these one of the most important is research, in which F. N. Wilson and his colleagues have done pioneer work in their studies of the electrical processes of the heart. The instrument is also useful in the diagnosis of arrhythmias, although one who has trained himself carefully for a number of years at the bedside in the study of these disorders only occasionally needs to resort to the electrocardiograph for this purpose.

In recent years the electrocardiograph has proven increasingly valuable in the diagnosis of focal cardiac lesions. The most common such lesions are of arteriosclerotic nature and are often accompanied by clinical manifestations of angina pectoris and of myocardial infarction—disorders which are attended by grave hazard. However, there are other focal lesions in the heart which are either due to entirely different causes or, even if arteriosclerotic in origin, are not accompanied by similar dangers. The electrocardiograph may at times be of great value in telling whether or not a lesion exists in the heart, but the instrument alone can not give exact information concerning the nature of the lesion. Hence, diagnosis and, more particularly, prognosis, when based on the electrocardiographic findings alone, are likely to be erroneous and misleading. Decisions of vital importance to the patient need to be based on all the evidence and in the great majority of cases the clinical findings, and more particularly the proper analysis of the subjective manifestations, are more important than the electrocardiograms. From personal observation many instances could be cited in which unwise restrictions, unnecessary psychic trauma, and even severe anxiety neuroses have been created as the result of misplaced emphasis on electrocardiographic findings. Such errors have come about to some extent because both the profession and the laymen have assumed that the term "heart specialist" and "electrocardiographs" were synonyms, failing to realize that any person can become reasonably expert in interpreting electrocardiograms within a few months, while years of general training in internal medicine, plus additional years of specialized clinical experience, particularly in regard to the subjective manifestations, are necessary before a man can be properly labelled as a cardiologist.

The foregoing discussion is obviously incomplete. A comprehensive consideration of my topic would require that much more be said. However, perhaps enough has been said to reaffirm what most of us already know, namely, that laboratory instruments, while useful as tools, can not possibly think and hence can never be used as a substitute for that most valuable and delicate of all instruments, the physician's cerebral cortex. The failure of some of us to realize this simple and obvious principle has led many patients to be subjected to a large number of special tests when if a proper history had been taken much of the expense would have been spared. Physicians should be more interested in the subjective as well as in the objective manifestations of disease, and should take complete and more accurate histories, thereby utilizing fewer laboratory tests to further advantage. The people should learn to pay properly for this, for they will be receiving better care and at less expense than is now often involved. If these objectives can be achieved and if, in addition, we can increase our tolerance and decrease our jealousy toward our fellow physicians, then we have done most of that which lies within our power to prevent unwarranted governmental interference with the practice of medicine. And so, finally, I should like to be allowed to paraphrase that -to me-most beautiful of all verses in a wonderful book: And now there remain these three methods, the laboratory, the physical examination and the history, and the greatest of these is history.

INTESTINAL OBSTRUCTION

EARLE F. MOODY, M. D. Dothan, Alabama

In reviewing the literature of late years on this subject, I have been impressed by the infrequency of the reference to intestinal obstruction. The morbidity and mortality are still very serious problems for the surgeon. While the mortality by improved medical and surgical methods has been greatly reduced, and while acute obstruction is less frequent, the hazard still is a problem for us. It has not been many years since Deaver is quoted as saying that the mortality was sixty to seventy per cent, while John B. Murphy deplored a death rate of forty per cent.

Accepting Babcock's classification we have: (1) reflex ileus, (2) mechanica! ileus, (3) inflammatory ileus, (4) dynamic or spastic ileus and (5) adynamic or paralytic ileus. It may result from (1) injury to or disease of the cord, (2) renal calculi, (3) twisted pedicles of abdominal or pelvic tumors, (4) biliary stones, (5) embolism or thrombosis of the mesenteric vessels. (6) inflammatory or adhesive peritonitis, (7) foreign bodies within the bowels, impacted feces, enteroliths, gall stones, or strangulated hernia, and from tumors arising from the walls of the bowels in cancers, ulcers and intussusception. Intussusception, congenital strictures and diverticulii are the usual etiologic factors in young children; volvulus and cancer in the aged; while carcinoma, adhesions and hernia cause most obstruction in middle life.

Obstruction may come on gradually from tumors, old adhesions and carcinomata, and the surgical interference in these cases is very different from the acute obstruction. It is the acute postoperative obstruction on which I will direct my discussion in this paper. The case may be a simple obstruction from adhesions, and usually is of this type, or it may have decided vascular changes with strangulation of a part of the bowel. The patient has paroxysmal colicky pains with tenderness, followed by vomiting. There develops in a few hours' tympany, and this distention increases in amount and rapidity depending on the segment of bowel

Read before the Association in annual session, Montgomery, April 18, 1944.

involved, and without rigidity. When the obstruction is high, the vomiting is more persistent and consequently there are more dehydration and toxemia. The vomiting is first gastric contents, then bile, and, if the condition is allowed to continue, stercoraceous matter is ejected.

Since distention of the bowel is a factor which causes the chemical and physiologic changes in the bowels, transfusions and fluids by the vein are valuable, at least temporarily, in overcoming this condition. A Wangensteen tube will empty the stomach, relieve the nausea and distressing vomiting. and make the patient more comfortable. Harold C. Ochsner has recently said that a properly inserted Miller-Abbott tube has reduced the mortality to ten per cent. He states that after anesthetising the nares and pharanyx with two per cent protocaine and lubricating the tube with a water soluble jelly, and passing the tube into the stomach, suction is then applied and the stomach is emptied. The patient is then placed on his right side and the stomach is distended with two or three hundred cubic centimeters of air to eliminate reflex contraction of the antrum, which is found in cases of this kind. Sufficient slack is placed in the stomach by this method to allow the tip to penetrate into the duodenum. The patient lies on his right side, suction is maintained and enough fluids are allowed until the tip passes well into the duodenum.

I believe that every surgeon dislikes to reoperate on his patient, and we are prone in the beginning of these stormy but classical symptoms and signs to assume a rather mental attitude of procrastination. It may be rather bold to reoperate on suspicion. but a watchful waiting policy may be hazardous to the patient. When the obvious signs and symptoms are present, and medical treatment has not convinced us that the obstruction is relieved, it is our duty to decide on a surgical procedure. In our efforts to overcome one or more confusions in a classical diagnosis of obstruction, frequently some cardinal points are wanting in a diagnosis, and a serious delay may be made in not operating early enough. The mortality is largely in ratio to early operation.

Orr and Haden have poved that in high obstruction there is an increase in the nonprotein nitrogen, a decrease in the chlorides, with a rise in the carbon dioxide combining powers of the blood. The fall in the chlorides is due to the continuous vomiting of the hydrochloric acid, and the low chloride contents of the blood may be a factor in the toxemia. These investigators say that there is a greater loss of chloride than of sodium. The excess sodium combines with carbonic acid to form sodium bicarbonate, which is increased by the carbon dioxide combining power of the plasma. In this way we may explain an alkalosis frequently sufficient to cause a tetany that we see occasionally in these obstructed patients.

According to McIver and Gamble a loss of gastric and pancreatic juices, and of bile and fluid from the intestinal mucosa, and consequently a reduction in the blood plasma, may account for the deaths occurring in the cases of prolonged vomiting. When these cases are operated on late, we have, in addition to the deficient chloride, an intoxication from bacteria in the affected segment of the bowels. They say that the most persuasive evidence that dehydration can be a directly fatal condition is the fact that death can be prevented and the characteristic symptoms removed if the dehydration is adequately repaired by the subcutaneous administration of sufficient quantities of the lost material in the form of physiologic solutions of sodium chloride. It appears that the changes in the blood can account for the toxemia, and that the proper adjustment of the disordered chemical balances will suffice to relieve the symptoms and bring the patient to normalcy.

Patients with obstruction and accompanying dehydration will soon have a diminished output of urine, and, to stimulate diuresis, dextrose in a twenty five to fifty per cent solution is of great value. Obstructive symptoms closely simulating postoperative mechanical obstruction are frequently seen from an adynamic or paralytic ileus, but in this condition there is no increased peristalsis, and the restoration of the chlorides will relieve the patient.

A paralytic ileus may result from an organic obstruction, or it may come from a reflex action through the plexus of Auerbach and Meissner. When it is mechanical and the onward peristalsis is impaired or

stopped, the production of ptomaines in the bowel and a paralysis of the bowel by these toxic products is evident. When the plexus of Auerbach, which is the motor apparatus in the intestinal wall, is influenced by the toxemia and does not respond to stimuli, we really have a true stasis. In this condition surgical doses of pituitrin, prostigmin, or pitressin, followed by enemas is of real value. The colon tube is readily admitted into the bowel and the enema usually retained in a paralytic ileus; while in organic obstruction we usually get a little feces or discolored water and gas from the first enema, and later, if the obstruction is low, it may be impossible to insert a colon tube and the water is ejected rapidly without flatus or discoloration. An intermittent discharge of mucus with tenesmus frequently indicates a low obstruction. If the patient is thin, the abdominal wall diastatic, the peristaltic wave can be seen in organic obstruction. The temperature is usually low and likely subnormal in the paralytic type, but the pulse will soon become rapid and thready, and the picture becomes a patient in extremis.

A simple high enterostomy, by the Witzel method as advocated first by Long of North Carolina, is to my mind the operation of choice. The operation can be done under local anesthesia with practically no shock. The incision should be near the outer border of the upper left rectus, and the distended bowel pulled through the wound and an enterostomy done. I feel sure that I have seen a great many patients get well that otherwise would have died. It is much safer than looking for the point of obstruction and releasing it, for the added shock by manipulating and traumatising the bowel will frequently bring about hazardous results. I have been forced to do enterostomies many times, and I believe that the mortality is low when they are done early. The wound heals spontaneously and the lumen of the bowel is soon reestablished.

Of course, when profound vascular changes have occurred in the affected segment and strangulation is inevitable, the procedure is resection and anastomosis. Peritonitis is usually developing, the patient is in shock, or approaching shock, and the mortality is necessarily high.

After an enterostomy or anastomosis, it is well to give saline, glucose or plasma.

SIMPLIFIED CHIN SUPPORT

CHARLES J. THUSS, M.D. Birmingham, Alabama

Immediate stabilization of a fracture involving a mandible or maxilla is necessary in order to reduce pain and shock and to avoid recurrent hemorrhage. Many types of external support have been devised, some simple and others quite complicated. It has been our experience that any stabilizing support that does not have elasticity incorporated in it soon loosens and thus loses part of its efficiency. This is even true of the so-called elastic bandages.



Fig. 1. Fracture of the maxilla following reduction, and application of chin support.

We have been using a simple sling beneath the jaw connected to a skull cap by elastic bands. The skull cap can be obtained from the operating room and the sling quickly made by the hospital seamtress. Buttons, hooks or even safety pins can be used as anchors for the elastic bands. This support has been used with good results on fractures of the maxilla without intra-oral splints. It has also been used on fractures of the mandible both with and without intra-oral splints.





Figs. 2 and 3. Results two months later.



Fig. 4. Simple oblique fracture of the mandible without displacement.

The advantages of this support are:

- 1. The cap and sling are easily and quickly made.
 - 2. It is simple to apply.
 - 3. The tension is easily changed.
 - 4. The support does not loosen.
- 5. It may be taken off instantly in case of an emergency.

Tuberculosis in Industry—The time has come for the public to accept the responsibility of providing financial security for the tuberculous worker and his family under any circumstances associated with the control of his disease. Overcrowded living conditions, poor home hygiene and fear of want during the absence of the bread winner from the house all contribute to failures of arrest of the disease in individual cases and play an important part in the continued spread of the disease.

A comprehensive scheme will be required to deal with these problems, developed in close cooperation with the medical services. Grants should be available to patients during treatment and during after-care and rehabilitation, in some cases for prolonged periods of invalidism, and if necessary for indefinite periods if permanent disability renders the individual unfit for work. Provision will need to be made for the proper care of children when the mother is removed from the house for treatment of her disease. Unless there is freedom from want and adequate maintenance without anxiety, the best medical care

program for tuberculosis control in industry and in the community will be only partially successful and in the long run very costly.—Hilleboe and Gould, J. A. M. A., May 27, '44.

The Management of Hyperthyroidism—For some strange reason many general practitioners are unable to resist the temptation to try these patients on iodine. And in the experience of most surgeons, it is only the occasional patient who has not had previous iodine therapy. It is the indiscriminate use of this drug that I should like to condemn. The physician can make no greater error than to prescribe this drug indiscriminately to his goiter patients. All too frequently the surgeon is confronted by a patient who has been given 10 drops of Lugol's solution and a high caloric diet by a well meaning internist, reassured and sent home to rest in bed. A few weeks pass, the procedure is repeated, and the physician is delighted at the remarkable improvement he has wrought. For behold, the basal metabolic rate has dropped dramatically, the patient has gained weight, the pulse rate has fallen from 140 to 80 or 90; the patient looks better, feels better, and everyone is delighted that she has been spared the tortures of surgery. But in a few weeks or months this patient returns for another of these amazing treatments. All her symptoms have returned. The iodine is repeated, the dosage doubled; but the heart continues to race. She is hospitalized, given massive doses of iodine (often by vein) but somehow the physician has lost his magic touch. When he repeats the basal test and finds it essentially at its original level, he throws up his hands in despair, loads the patient on the train, and ships her to the city, convinced only now that she has become a candidate for surgery. It is only when you are forced to operate on a patient who has become iodine-fast, with a basal rate of 50 plus, a pulse rate of about 140, a progressive weight loss, and a heart that is fibrillating, can you understand why the surgeon begs you not to give iodine indiscriminately.

The treatment of hyperthyroidism is surgical, not medical; except in a few instances of mild adolescent hyperthyroidism, and possibly in certain instances of recurrent hyperthyroidism. Why? Simply because we have no specific drug to cure the condition. The use of x-ray therapy is of limited value; proper surgery, however, gives a low mortality, a low incidence of post-operative complications, and a high percentage of satisfactory end results.—Roberson, J. M. A. Georgia, May 1944.

Urinary Antiseptics—Hypersensitivity to sulfathiazole cannot be anticipated. Nevertheless, some deaths from this drug occur in patients who have had inadequate preliminary studies and poor supervision during the administration. A forced fluid intake throughout the period of treatment combined with the routine use of small doses in the treatment of uncomplicated urinary infections probably offer the greatest assurance

against the occurrence of the common toxic reactions encountered.

We have been of the opinion for some time that patients in hot climates where body fluids are concentrated by profuse sweating require more careful supervision than those living in cooler and less humid atmospheres.—Burns, South. M. J., June 1944.

Bleeding in Pregnancy—While pregnancy, particularly in the early months, is ordinarily associated with amenorrhea, bleeding from the genital tract is encountered not uncommonly. This symptom, in the vast majority of instances, occurs during the first three months and far less frequently during the fourth and fifth. It may be noted during the first trimester of a pregnancy which otherwise pursues a normal course. Much more frequently it signifies an abnormal nidation site, or a deficiency or abnormality in the ovum itself. Lastly it must not be forgotten that bleeding may occur from other lesions of the cervix or vagina, totally unrelated to but possibly influenced by pregnancy. In considering the significance of bleeding during the early months of this condition, it must be remembered that with the exception of the last group, the source of hemorrhage cannot be determined by any direct method of examination. The importance of this symptom can only be determined by careful bimanual examination together with inspection of the vagina and cervix. Such examinations may have to be performed repeatedly before one can arrive at a logical explanation of the underlying cause. The character, amount and duration of bleeding together with the accompanying signs and symptoms must be considered along with the results of such examinations.—Studdiford, Connecticut State M. J., May 1944.

Control of Tuberculosis—As in rehabilitation of the patient, education of the public is a joint responsibility for both physicians and laymen, working both as individuals and through volunteer and official organizations. In spite of all the efforts to educate the public in regard to tuberculosis through the past forty years, the ignorance and superstition which still exist in regard to tuberculosis are amazing. This is true not only among the illiterate but often also among those who are otherwise intelligent. Among the many ways in which private physicians may assist in the education of the public may be mentioned the making of addresses on tuberculosis to both lay and professional groups, giving radio talks, writing articles in newspapers, censoring information issued to newspapers or in pamphlet form by volunteer or official agencies, serving on boards of tuberculosis associations, and endosing personally and securing the official endorsement of their medical societies of early diagnosis campaigns, of mass surveys and of public clinics for those who are unable to consult private physi-

The main hope for educating the public, however, is through the establishment of health edu-

cation courses in our public schools and colleges. Physicians can do much by using their influence for the establishment of such courses. If we educate the youth of our country in matters pertaining to public health many of them will teach their parents.—McCain, Med. Ann. District of Columbia, May 1944.

Hypodermic Medication—How frequently the physician hears his patients say that they will take anything he may wish to give them by mouth, but they add, "I will not take medicine by hypodermics." These needle-shy persons have usually had experiences causing this revulsion. In many instances the physician has been to blame. In consequence, I have taken particular pains to perfect my technic until patients now say, "Why, doctor, I didn't know that this treatment could be so painless!" Or perhaps they may say, "I didn't know when you gave it to me."

In modern medicine more and more drugs are given intravenously and subcutaneously. It behooves physicians to keep their patients until they feel they have had sufficient medication for any proper course in a given case. I am satisfied that on account of lack of attention to little details they are losing many patients because they hurt them.

The more the physician uses a syringe the more he is apt to have rusty, choked, or too large needles. He should not let the needles be improperly cared for. With the newer drugs, the sulfa drugs, more transfusions and penicillin coming along, requiring the use of needles every few hours in their administration, it is of great importance to watch and guard against creating needle-shy patients. When my patients say to me that no one has hurt them so little in giving hypodermics, I naturally am complimented and gratified. These patients stay with me and send others.

Infinitely greater results can be obtained in giving vitamin B1 and scores of other medicines by hypodermic medication. The physician sees his patient as frequently as may be necessary and gets better cooperation by this method of treatment. The simple truth is that the nurse and the physician should faithfully watch the needles, always carefully inspecting the points and keeping them razor-sharp. It is advisable always to use as small a needle as possible and to insert it as quickly as possible. Of course one should always try to find an area away from important nerves. A fold of the skin firmly held and pressed above the point of insertion will make possible the quick and painless flashlike jab that is important. Then one should give the injection

One sees needles in use, over and over, with turned-up points, rusty perhaps and much too large for painless medication. A thoughtful physician will not be guilty of using such needles.

After all, the physician is after results. It is, therefore, of prime importance that he observe these simple details if he is going to keep his patients, give them all the treatment they should have and end with their singing his praises.—Walter, J. Florida M. A., June 1944.

THE JOURNAL

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BROMIDE INTOXICATION

"Bromide intoxication was first called to the attention of the scientific world by Huette in 1850, who reported one case and discussed the sedative and toxic effects of the bromides. Andrews related the incident of the entire family of an English apothecary developing a toxic bromide psychosis because of a servant's mistaking a barrel of sodium bromide for sodium chloride, the two barrels being in juxtaposition. Unknowingly the family salt cellars had been filled with sodium bromide instead of table salt."

The above sentences are from the opening paragraph of the recently published article of Kay, Smith and Johnson¹ dealing with this subject. In 1936 the authors began the routine examination for bromides of blood sera of all patients admitted to Bryce Hospital and 7,567 cases form the basis of their report. And of these cases 253 or 3.3 per cent showed a toxic reaction, the diagnosis being made on the basis of the clinical picture plus the percentage of bromide in the blood serum. The patients included practically all of the various types of psychiatric disorders, both organic and functional.

The Tuscaloosa investigators go on to tell us that "the earliest symptoms of bromide intoxication are vague. They are dull headache, constipation, fatigue, irritability, restlessness and loss of appetite. Gradually the patient begins to have difficulty in concentrating and his memory becomes poor. Slight ataxia develops. . . . If bromide medication is continued the pupils become dilated, the knee jerks are diminished, the tongue becomes furred, the breath foul and the speech tremulous. Soon the confusion and disorientation are marked. Hallucinations (usually of a frightening nature) appear and the patient becomes extremely fearful. . . . Many see large animals which frighten them. Therefore, most of the severe cases are constantly pleading for protection. In such a condition few patients can obtain rest and unless cared for carefully they will exhaust themselves and collapse physically. At best we can expect considerable loss of weight and cachexia in the more severe cases. Contrary to the general belief few of our patients had marked skin manifestations. . . ."

"The treatment consists mainly of sodium chloride, fluids, sedation and general supportive measures. Nine to twelve grams of sodium chloride are given daily, either in the form of tablets (1 or 2 grams each) or in tomato juice or bouillon. If the patient does not take fluids well by mouth, 1000 cc. infusions of 5 per cent glucose in saline are given once or twice a day. Marked restlessness may be combatted satisfactorily by 4 to 6 drams of paraldehyde by mouth or, if necessary, by nasal tube. Frequently we mix 10 cc. of paraldehyde with the infusion by injecting this amount into the glucose vacoliter and shaking well."

"The rationale of the salt treatment is based on the replacement of the sodium bromide in the organism by sodium chloride for which the body apparently has a greater affinity."

The Tuscaloosa observers have done well in selecting for discussion a condition which is more widespread than is generally realized and which, not infrequently, is overlooked. The authors, being connected with an institution, quite naturally see more and worse cases than do practitioners having no institutional affiliation. But bromide intoxication and overdosage does exist upon

^{1.} Kay, Frank A.; Smith, Donald, and Johnson, Georgia: Bromide Intoxication, J. M. A. Alabama 13: 289 (March) 1944.

a large scale, due to excessive or prolonged administration by the doctor or to selfmedication by the patient. Some years ago the suggestion was made that bromide be dispensed only upon prescription, though it is highly debatable whether this should be done. The average practitioner, struggling with the horde of neurotics and psychotics that unceasingly confront him, must resort to sedation. He has seen and read so much concerning the serious and even fatal effects of the barbiturates that it is natural for him to rely more upon the bromides than he did some years ago. And in the bromides he has an ancient and invaluable aid, if he will only be alert for the appearance of untoward effects and forewarn his patients accordingly. And this he can do, even though he probably has no ready access to a laboratory that can estimate the percentage of serum bromide.

The sound conclusion of Kay, Smith and Johnson is as follows:

"We have called attention to the frequent use of bromides in patients admitted to a state hospital for mental diseases and the frequent occurrence of bromide intoxication, causing not only a delirium in its own right but also clouding the picture of other underlying psychoses. We caution physicians against the indiscriminate use of bromides and warn that their patients may already be taking bromides in unknown amounts through the use of such patent medicines as Miles' Nervine, Bromo-Seltzer, Stanback and B-C powders. We have demonstrated the ease and rapidity with which bromide becomes concentrated in the blood serum and we have shown graphically the effectiveness of salt in hastening the elimination of bromide from the blood and tissues."

TRANSACTIONS OF THE ASSOCIATION

1944 SESSION

(Concluded)

Last Day, Thursday, April 20

The Association, sitting as the Board of Health of the State of Alabama, was called to order at 8:30 A. M. by the President, Dr. Fred W. Wilkerson.

The report of the Board of Censors was rendered by the Chairman, Dr. E. V. Caldwell of Huntsville.

THE SEVENTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF CENSORS, IN-CLUDING ITS REPORTS AS THE STATE BOARD OF MEDICAL EXAMINERS AND AS A STATE COMMITTEE OF PUBLIC HEALTH

E. V. Caldwell, M. D., Chairman

The State Board of Censors, in conformity to constitutional mandate, has the honor to submit to this Association its Seventy-First Annual Report.

PART I

AS A STATE BOARD OF CENSORS

MEDICINE AND THE WAR

A major responsibility of the medical profession and of this Association is the maintenance of standards of medical care under the conditions imposed by war. In 1943 we experienced one of the greatest strains of our professional career in attempting to render adequate medical care to the civilian population. Postgraduate studies have been neglected, even short refresher courses have not been attended by as many as desired; vacations have been postponed or forsaken entirely; hours of rest and recreation have been fewer than needed to keep us physically fit for rendering most effective service. With approximately twenty-five per cent of Alabama's active practitioners having been called into military service, those who have been left to provide medical care have been taxed to the limit of their physical endurance.

Many new and unexpected problems caused by the present global war with its far-flung battle fronts have placed tremendous demands on the medical resources of our state and nation. These demands have been greatly multiplied as the war has progressed in intensity and the war efforts of the civilian population have increased. Careful study of this report reveals that efforts have been made to meet the problems as they have arisen to supply the immediate needs, and we are confident that there will be serious thought given to the formulation of plans for effective service under changing conditions. It is recognized that, for the greatest good, the combined and cooperative efforts of all organiza-

tions interested in medical care must be continued as participants in the program. The Board recognizes and appreciates what has been done by the medical profession, the State Dental Association, the Alabama Pharmaceutical Association, the State Nurses' Association, the State Hospital Association, Procurement and Assignment Service, the United States Public Health Service and other federal agencies in perfecting plans to furnish better and more evenly distributed medical service to the people of Alabama. Recommendations are being made for the further development of these plans for the maintenance of an acceptable medical care program.

When the war is over and the majority of the 237 Alabama physicians now on duty with the armed forces return to engage again in active practice, the Association will have several obligations. (Military authorities estimate that approximately thirty per cent of the physicians now on duty will not be returned to private practice for several years but will remain in service to render medical care and rehabilitation.) The first obligation of the medical profession will be to see that provision is made for refresher courses or postgraduate training for the physicians who return from military duty. It is likely that the federal government will meet this obligation. The reestablishment of these returning physicians in new locations or in the practices they left, when answering the call to duty, will be an obligation of the Association.

The obligation of directing the intelligent planning and continuation of services that can be successfully utilized in the rehabilitation of the health and medical needs of a war sick people in cooperation with other associations and agencies will be ours. There are many communities now in urgent need of medical personnel and hospital beds. Careful planning must be made to provide medical centers, through which necessary hospital and laboratory facilities for the diagnosis and treatment of disease will be available for all civilian needs.

The membership of the Association is aware of its many responsibilities as is revealed by reading the message of the President and the reports of the Vice Presidents and the various committee chairmen. It, therefore, is apparent that we must cooperate with all related organizations and governmental agencies interested in postwar activities to help recover from the devastating effects of a ruthless war. This is one of the essentials of an abiding peace and to this end the medical profession must dedicate itself until we shall again be progressing peacefully on the road of human advancement.

PROCUREMENT AND ASSIGNMENT SERVICE

Alabama had no quota assigned by the national office of Procurement and Assignment Service for Physicians to the armed forces. The only physicians who were called to active duty were those interns and residents who had commissions and a few young men who were particularly eager to get into the service and were unwilling to relocate into places in the state where their services were urgently needed.

According to the records of the Secretary of the Association there are 235 members and two non-members on active duty who were engaged in private practice. There are seventeen physicians who were engaged in public health work now with the armed forces. Five Alabama physicians have died while in the service of their country. Twelve have received discharges from the service for physical reasons and forty-nine have been rejected for duty with the armed forces.

RELOCATION OF PHYSICIANS

Efforts have been made during the year to get physicians to move into communities where there is urgent need for more adequate medical care. Physicians who have been rejected for military service, others who have received discharges from the armed forces, and others who are not of military age but practicing in areas where they can be spared without causing serious lack of medical care are contacted by letter, telephone and personal conferences. Leaders in communities and contract surgeons where lack of medical care is acute are given names of licensed physicians who may be interested in such practices in order that contacts can be made.

To stimulate relocation of physicians Public Law No. 216 was approved by the President on December 23, 1943. This law carries an appropriation of \$200,000 to the U. S. Public Health Service for the fiscal year ending June 30, 1944. The physician who relocates under this plan must agree to remain in his new location not less than one year. He is granted a stipend of \$250 per month for three months after location and the cost of his family's travel and transportation of household effects to the new location.

A city, county or other local subdivision of government may submit an application to the Surgeon General of the U. S. Public Health Service through the State Health Officer for the relocation of a physician in the applicant subdivision. This application must be accompanied by a check for \$300 and assurance that twenty-five per cent of the total cost of such relocation will be paid by the local subdivision. No physician has been relocated in this state under the plan but three towns now have the application under consideration. Ninety-six relocations have been made by physicians in Alabama through the efforts of Procurement and Assignment Service, leaders in various communities, contract surgeons and the physicians themselves.

Eligible communities are urged to secure application forms from the State Health Officer.

It is generally agreed that a ratio of one physician for each 1500 people is deemed desirable as an average and the absolute minimum that should be allowed to exist in war industry and military areas is one physician for each 3000 people.

HEALTH WORKERS IN SERVICE

One hundred seventeen persons employed by the State and County Health Departments have been called to active duty with the armed forces. Thirty-nine of these were public health nurses, twelve were public health engineers, twenty

were sanitation officers, three were sanitarians, three were employed in the Bureau of Vital Statistics, two of whom were its director, five were bacteriologists, seventeen were physicians and there were thirteen others serving on the staffs of the state and several counties. This is approximately fifteen per cent of the total number of employees whose services have been very difficult to replace because of the lack of experienced personnel. It is interesting to note that there are only seven county health officers employed in the state who are under forty-five years of age and physically qualified to serve with the armed forces. These are all serving in key counties and three of them each serve two counties.

Federal assistance has helped materially in meeting the emergency caused by the loss of experienced personnel and supplying urgently needed help for health protection in war areas. It is through our combined efforts with local, state and federal agencies cooperating that public health services have been available to members of the armed forces, war workers and the civilian population.

STATE DEFENSE COUNCIL

The Medical Division of the Office of Civilian Defense has been concerned with the preparation and execution of plans for emergency medical service. An inventory of the state's medical resources and facilities has been completed and in certain areas augmented with medical supplies allocated by the U. S. Office of Civilian Defense.

Emergency Base Hospitals: Plans have been completed for the establishment of emergency base hospitals to which civilian casualties and other hospitalized persons can be transferred from the casualty receiving hospitals of target areas. The base hospitals are located at safer sites, along lines of evacuation determined in collaboration with the military and the state evacuation authorities. They are:

Emergency Beds Available

	Deus
Av	ailabl
1. Gibson Hospital, Enterprise	25
2. King Memorial Hospital, Selma	35
3. Vaughn Memorial Hospital, Selma	15
4. Selma Baptist Hospital, Selma	25
5. Colbert County Hospital, Sheffield	30
6. Citizens Hospital, Talladega	. 65
7. John A. Andrew Memorial Hospital,	
Tuskegee	70
	265

Other Hospitals Designated as No. 2 List:

1. Russell Hospital, Alexander City

Stabler Infirmary, Greenville
 Beard Memorial Hospital, Troy

4. Edge Hospital, Troy

Veterans' Administration Hospitals are not officially designated:

Veterans' Hospital, Montgomery
 Veterans' Hospital, Tuscaloosa
 Veterans' Hospital, Tuskegee

Affiliated Hospital Units: Selected hospitals have organized affiliated units, each composed of internists, surgeons and specialists, who are to

serve when needed to supplement the staffs of emergency base hospitals. They will be called to active duty by the Surgeon General of the U. S. Public Health Service on recommendation of the State Chief of Emergency Medical Service through the Regional and Chief Medical Officers, if enemy action should necessitate activation of nearby emergency base hospitals. When called to active duty, they will receive pay and allowance for equipment comparable to those officers of corresponding grades in the armed forces.

In a sudden military emergency the affiliated units will also be available to assist the Army temporarily in caring for military personnel in the vicinity until Army medical personnel can be reassigned to provide for continuing care. These units have been established at the following points:

Birmingham:

Norwood Hospital Unit
 Hillman Hospital Unit

Montgomery: St. Margaret's Hospital Unit

Mobile: Mobile Unit

Tuskegee: John A. Andrew Memorial Hospital Team

Affiliated Nursing Units: These are being formed in connection with the affiliated hospital units for furnishing nursing service, and are being organized at Birmingham, Decatur, Mobile.

Blood Plasma Units Are Available at the Following:

Anniston: Garner Hospital Atmore: Atmore Hospital

Birmingham:

American Cast Iron Pipe Company

Baptist Hospital
Children's Hospital
Hargis Clinic Annex
Hillman Hospital
Jefferson Hospital
Norwood Hospital

South Highlands' Infirmary

St. Vincent's Hospital

Dothan:

Frazier-Ellis Hospital

Moody Hospital

Enterprise: Gibson Hospital Fairfield: Employees' Hospital

Gadsden: Holy Name of Jesus Hospital

Huntsville: Huntsville Hospital

Jasper:

People's Hospital

Walker County Hospital

Mobile:

Mobile Infirmary

Marine Hospital

Montgomery: Deputy State Chief of Emergency Medical Service, St. Margaret's Hospital

Selma: Selma Rotary Club

Sheffield: Colbert County Hospital

Sylacauga:

Drummond-Fraser Hospital

Sylacauga Infirmary

Talladega: Citizens' Hospital Tuscaloosa: Druid City Hospital

Regional Office of Civilian Defense, Atlanta,

Georgia

Medical Supplies: In certain areas designated as target areas supplies have been made available in addition to their normal ones. These supplies are to augment the community's own and are of expendable nature, except beds. Hospital cots, casualty stations (mobile) supplies, splints, morphine, etc. make up these lists. In addition, a reserve supply of hospital cots and beds are in storage at Kilby Arsenal for use on call to any community in case of enemy action.

Emergency Medical Service in Natural Dis-The function of this service in relation to natural disasters can best be expressed by quoting Dr. George Baehr: "Regardless of the cause of a disaster, the local Commander, State or Regional Directors, or their respective medical officers not only have the authority to activate the Emergency Medical Service but should do so immediately whenever there is need. The provision of emergency medical care is one of the functions of local government and the Emergency Medical Service, like the police and fire departments, is one of the essential services of local government. The Red Cross has no organized emergency medical service; therefore, its Disaster Relief Director is obliged to organize one after a disaster has occurred only if community services are not available. The national officer of the Red Cross appreciating this fact, has agreed that the Emergency Medical Service should not be duplicated by the Red Cross, but should function with the Red Cross if that agency assumes responsibility for widespread disaster relief."

Fortunately, the Emergency Medical Service in Alabama has not been activated during the past year because of a disaster.

The foregoing sections of the Board's report relating to medicine and the war were approved by the Association.

WORK OF FEDERAL AGENCIES

U. S. PUBLIC HEALTH SERVICE

The same friendly cooperative relationship existing between this agency and the State Department of Health continued during 1943. Additional funds were allocated to the state through the Public Health Service by virtue of increased appropriations made available in Title VI of the Social Security Act. These funds were expended to supplement local and state funds providing more adequate budgets to promote the general health program; render more services in the venereal disease control program; provide graduate training for health personnel; promote additional work in the typhus fever control program, and provide malaria control services in war areas.

THE CHILDREN'S BUREAU

This agency is in the Department of Labor and handles Title V funds of the Social Security Act. Monies allocated to Alabama by the Children's Bureau are used primarily in the maternal and child health program to pay for services, materials and supplies required in promoting these features of public health. There are three classes of funds in this service as follows: Fund A, which

must be matched by local and/or state funds; Fund B, which is an outright gift, and Fund E, which is used to pay for medical, nursing and hospital care for the wives and infants of the four lowest paid grades of enlisted men in the armed forces.

Funds allotted to the state by the U. S. Public Health Service and the Children's Bureau are budgeted with local, state and other funds and are disbursed through the State Comptroller's office upon requisition with proper itemization, just as any other state fund. Checks for proportionate amounts budgeted are received by the State Treasurer from the Federal Treasurer quarterly and deposited to the credit of the State Health Department. Personnel employed with these funds come under the State Merit System.

There are some employees of the U. S. Public Health Service loaned to the state whose salaries are paid by that agency and travel is paid by the state or county health department. These workers serve under the supervision of state and county health personnel and to all intent and purpose function as local employees.

TENNESSEE VALLEY AUTHORITY

This agency carries on a vast health and safety program for its employees, for which it employs physicians, engineers, nurses, laboratory workers and safety personnel. In addition to this type of work, the Tennessee Valley Authority provided funds for the employment of four nurses who worked under the authority of the health officers of Colbert, Jackson, Lauderdale and Lawrence Counties.

NATIONAL YOUTH AND WORK PROJECTS ADMINISTRATIONS

These two agencies were discontinued early in the year, and although there is no definite report of activities carried on by them during 1943 the state received benefits from their programs of preceding years.

FARM SECURITY ADMINISTRATION

The chief improvement made by this agency was provision for more suitable arrangements for the rendering of medical and dental care, hospitalization and the supplying of necessary drugs. The minimum amount loaned borrower families for this purpose by the Farm Security Administration was raised from \$12 to \$18 per family of two, with provision for additional services. In general, it provides the services ordinarily rendered by general practitioners in the office or home, obstetric care, ordinary medicines, hospitalization of emergency cases and those cases recommended by family physicians, including major and minor surgical cases, and for specialists' care when the family physician thinks such services are needed for consultation or other purpose. The dental care programs include cleaning, extractions, simple fillings and soft tissue and gum treatments.

These plans were in operation in thirty-seven counties, with 11,612 families participating, and involving 62,704 persons. They functioned most satisfactorily in those counties where the physicians, dentists, pharmacists and Farm Security

Administration workers met early in the year and frankly discussed the provisions included in the plan.

Although the Farm Security Administration's program for medical, dental and hospital care is not all that may be desired, it is the opinion of the Board that definite progress has been made toward improvement of these services for a portion of the population that has previously depended largely upon the charitable inclinations of the medical profession.

The Association approved the Board's comments on the work of federal agencies.

EMERGENCY MATERNITY AND INFANT CARE

This program was inaugurated on a small scale in August and September 1942 with a limited allotment of \$9,995. The plan was not widely known inasmuch as it was to apply only to the Montgomery area. Such service, however, could not be confined to a restricted area, and other counties soon became interested. In January 1943 the funds were exhausted and Congress had failed to make an appropriation for the continuance of the plan. It was therefore necessary to refuse and disappoint some two hundred applicants which caused embarrassment and inconvenience to many physicians. Later, however, Congress made a deficiency appropriation of \$1,-200,000, which was soon exhausted and the program again impeded. Then Congress appropriated \$18,600,000 for its continuance.

It was the purpose of Congress to provide free maternity care for wives of enlisted men in the four lower pay grades of the Army, Navy, Marine Corps and Coast Guard, and to care for their sick infants if under one year of age. Later this service was expanded to provide nursing care for home deliveries and for seriously ill patients; and medical and hospital care, if a participating hospital is available, the physician's fee being the same for home or hospital confinement.

The philosophy of Congress is to relieve the wives of the enilsted men of worry as to how they can get the necessary maternity care for themselves, medical care for their infants and to reassure the enlisted men themselves that their wives and infants will have proper care in their absence. Congress stressed the fact that this service is not in any sense to be considered as charity. The State Departments of Health and Welfare are not permitted to inquire into the financial status of the applicant. All that is necessary is that a patient's husband be in the eligible grade when she makes application and that her physician is willing to accept her on the terms the department is permitted to pay. Care for confinement at home can always be authorized. Hospital care depends upon the availability of a participating hospital in a community or within a patient's reach. The physician and hospital have a right to accept or reject the patients or the terms. Participation by physicians and hospitals is entirely voluntary. In hospitals, ward care only may be provided, and the patient is not allowed to pay the difference between the state's payment for ward care and the cost of so-called luxury accommodations. If a patient is unwilling to accept ward care, the department cannot provide any hospital care for her. If she desires to pay her hospital bill, the department may not pay the physician for his services. From the date the department assumes responsibility for a patient's medical or hospital care, or both, the state will pay all or none of the costs. This is stated in the policy of the Children's Bureau in these words: "Physicians' services will not be authorized if the patient or someone in behalf of the patient is to pay for hospital care; and hospital care will not be authorized if the patient or someone in behalf of the patient is to pay the physician for medical care."

Payment for physician's services begins on the date on which the application, properly signed, is received by the department. The request signed by the physician bears the following note: "Authorization will not cover services rendered prior to the date of the application except for emergencies." This has caused dissatisfaction because physicians generally keep no record of the day they signed applications and bill the department for prenatal care rendered before that date. The physician is of course at liberty to charge the patient for services rendered before the department took over. That is a matter between the physician and his private patient.

Prior to December 13, 1943 the maximum fee for complete maternity care was \$35 but for cases whose care was authorized after that date the fee will be \$50. There has been much misunderstanding as to the meaning of "complete maternity care." It may thus be stated: "Complete maternity care includes at least seven visits during the prenatal period after the date of the application; labor; care during the puerperium; care of complications; obstetric operations, if needed; postpartum care of the newborn infant; routine tests for syphilis and of the urine; and a postpartum examination six weeks after delivery."

Many of the difficulties encountered at the beginning have been smoothed out and more and more physicians and hospitals are participating. It is a long range program and some cases are not completed until six months after application and authorization. On account of so few participating hospitals during the first months the number authorized was small. Beginning with sixty-five in June the total was brought to 1450 by the end of the year. Of these only fifty-seven maternity cases and three infants were completed and paid for during 1943. Of the fifty-seven maternity cases thirty were delivered in hospitals with an average stay of seven and five-tenths days per patient. As the number of participating hospitals increases so will the authorizations.

This service is greatly appreciated by the men and their wives. We have ample demonstration of their relief from actual distress to happiness when this care was granted. That hospitalization is needed is easily seen by visits to the inadequate living places—the small crowded and often shared rooms, and the wholly unsatisfactory environment and practical impossibility of a safe delivery. Confinement under such conditions nullifies the purpose of Congress to provide as safe and as good maternity care as it is possible to have.

This program has become so great that it requires three-fourths of the time of all the personnel of the Bureau of Maternal and Child Health, except of the dentist and nutritionists.

The Board's expression on the emergency maternity and infant care program received the endorsement of the Association.

THE WOMEN'S FIELD ARMY

The accomplishments of this splendid group of women under the capable leadership of Mrs. Ray Meade, Birmingham, State Commander of the Alabama Division, have added much to the cancer control program. The report of activities for 1943, submitted by Mrs. Meade is as follows:

"Taken in Time Cancer Can Be Cured." With this slogan as its objective the Women's Field Army of the American Society for the Control of Cancer continued its war against cancer. Through its county organizations it is making every effort to bring information about cancer control to the lay public of Alabama. The following points are emphasized:

1. The vital importance of every individual having a complete physical check up at least once a year;
2. Talks on cancer control are made to all organizations—men's and women's—with the teaching of the five danger signals of cancer;

Cancer films are shown whenever possible, as we believe in visual education;

In 1943 for the first time in Alabama, nine Alabama county commanders were declared eligible and received the American Society for the Control of Cancer service pin awards, which it is hoped may be increased in 1944. They were awarded on the following basis:

1. A well rounded educational program in the county Securing the quota of funds to continue educational work

3. County commander must present a certificate from her personal physician stating she has had a physical check up within a year. (We practice what we preach.)

Our school program has been intensified by distribution of 14,000 study outlines to high schools of Alabama through the active cooperation of Dr. E. B. Norton, State Superintendent of Education. We plan to enlist the aid of school authorities to form a permanent school education. tion committee, exchanging ideas and giving recommendations as to how the Women's Field Army can best serve this particular group. A poster contest for high school students is under way at the present time.

The Women's Field Army deeply appreciates the cooperation of the State Health Department through its State Health Officer in giving to the State Commander secretarial help this year. The vote of the Cancer Committee to have ten per cent of the legislative appropriation used for education has meant that a large supply of literature, pamphlets, as well as additional films, exhibits, etc., have been medic visible to the counties through the Women's een made available to the counties through the Women's Field Army county commanders.

The Women's Field Army feels that a fine beginning has been made in the establishment of four cancer clinics in the state. This is however only a small step in the program of cancer control. Georgia now ranks third in the nation in its Women's Field Army work. I think some day in the not too distant future Alabama will challenge that place. We came from forty-third to tenth place in 1943! Where will we be at the end of 1944?

The State Commander wishes to express sincere appreciation to the Cancer Committee of the State Medical Association, especially its Chairman, Dr. J. P. Chapman of Selma, whose guiding hand has helped the Women's Field Army steer its course and who is responsible for much of the success of the program.

The State Commander feels that the Alabama Division of the Women's Field Army is now on a firm foundation and will continue its active cooperation with the State Health Department and the Cancer Committee of the Medical Association.

The accomplishments of the Association's Committee on the Control of Cancer have been accelerated because of the activities carried on by the Women's Field Army and each county medical society is urged to cooperate in every possible way with this important lay organization.

The Association approved the Board's commendation of the Women's Field Army.

FEDERAL LEGISLATION FOR MEDICAL CARE

U. S. Senator Robert F. Wagner of New York introduced a bill, S. 1161, on June 3, 1943 for himself and Senator James Murray of Montana, which would extend the provisions of the Social Security Act to include "federal medical, hospitalization and related benefits." Representative John D. Dingell of Michigan introduced an identical bill, H. R. 2861, in the House on the same day. Thus it has become known generally as the Wagner-Murray-Dingell Bill.

Ninety printed pages are covered by the bill and nineteen of them are devoted to medical, hospitalization and related benefits. It includes provisions for every individual who is currently insured and is eligible for benefits under the Act to receive general medical, special medical, laboratory and hospitalization benefits. Likewise, every dependent of such insured individuals is entitled to the same benefits.

The Social Security Board and the Surgeon General of the U.S. Public Health Service are to administer the sections of the proposed Act pertaining to the medical and hospital care. A national advisory medical and hospital council is proposed to consist of the Surgeon General of the Public Health Service as Chairman and sixteen members to be appointed by him from panels of names submitted by professional and other agencies concerned with medical services and education, with the operation of hospitals, and from among other persons, agencies or organizations informed on the need for or provision of medical, hospital or related services and benefits. It is significant that considerable latitude is permitted in selecting this advisory council which will have so many and important functions, yet has no authority to regulate or promulgate rules to govern administration of the provisions in the Act.

The Surgeon General of the Public Health Service is authorized to:

- 1. Designate professional standards of quality to apply to general and special medical benefits;
- 2. Employ and establish the rates and methods of pay whether according to a fee schedule, on a per capita or salary basis or combination of these;

3. Establish fee schedules for medical services

and hospital fates;

4. Establish qualifications for specialists and designate those physicians qualified to furnish such specialist services;

5. Determine the number of individuals for whom any physician may provide service. may distribute available patients among the available physicians on a prorata basis;

6. Determine what hospitals or clinics may provide service for patients;

7. Provide grants-in-aid for professional educational and research projects;

8. Establish special advisory, technical, local or regional boards, committees or commissions.

The duty of studying and making recommendations as to the most effective methods of providing dental, nursing and other needed benefits will be that of the Surgeon General and Social Security Board.

Laboratory benefits are to be provided through such necessary laboratory or related services, supplies or commodities as the Surgeon General may determine. These may include chemical, bacteriologic, pathologic, diagnostic and therapeutic x-ray related laboratory services, physiotherapy, special appliances prescribed by a physician and eye glasses prescribed by a physician or other qualified practitioner.

The cost for putting the bill into effect is about \$12,000,000,000 annually, with \$3,048,000,000 being allocated to medical, hospital and related benefits. This tremendous fund would be raised

through:

- 1. Every employer paying a tax of six per cent on wages paid to individuals up to \$3,000;
- 2. Every employee paying a similar amount by deduction from wages on earned income up to \$3,000 a year;
- 3. Every self-employed individual paying a tax of seven per cent on the market value of his services up to \$3,000 per year;
- 4. Every federal, state and municipal employee paying, under certain conditions, a tax of three and one-half per cent of his wages.

After mature consideration of the provisions of this bill, S. 1161, the State Board of Censors, at its meeting November 29, 1943, unanimously passed the following resolution:

Whereas, There has been introduced in the Congress of the United States a Bill (S. 1161; H. R. 2861) known as the Wagner-Murray-Dingell Bill, adding to and extending social security legislation; and Whereas, The medical and hospital sections of this bill would substitute an imported system of medical practice for the American form of direct private service; and in a nation founded on free enterprise with opportunity for one to pursue one's life work stimulated by the ideals and ethics that dominate a profession devoted to the service of mankind; and Whereas, This bill, if enacted, would confer upon the Surgeon General of the United States Public Health Service final and complete authority over the practice of medicine and the operation of the nation's hospitals, and Whereas, Approximately one-third of the nation's physicians are in the service of their country, together with many other patriotic men and women whose interests are affected, and who, because of this circumstance, are not permitted to give expression to their views or wishes in regard to such legislation; and

regard to such legislation; and
Whereas, The general death rate in 1942 was the lowest on record, and the maternal and infancy death rates have continued to decline in recent years in the face of the stress of war, indicating that the medical profession is always prepared to rise to any emergency and fulfill its responsibility; and

whereas, A great majority of our physicians are now extending their every effort to safeguard the health and lives of our civilian population, this legislation would result in the distribution of a medical service of inferior quality; and

quality; and
Whereas, In view of the amazing progress of medical Whereas, In view of the amazing progress of medical science in America; in view of the unprecedented standards of health and longevity enjoyed by the American people; in view of the unparalleled efficiency of the nation's voluntary hospital system; in view of the rapid development of new plans for better distribution of hospital and medical care; and in view of the achievements that have made the American physician the world's leader in his field, there can be no good reason for proposing a complete revolution in the delivery of medical care to the American people; and

Whereas. If this bill is enacted, foreign experience with similar plans proves that the character and effectiveness of medical care will most certainly deteriorate to the disadvantage of the American people; and

Whereas, The bill would create a class of political physicians subject to the influence of political practice in secking emoluments and avoiding burdens, becoming a menace both to the patient and the public, now therefore be it

fore be it

Resolved, That the Board of Censors of the Medical Association of the State of Alabama records its opposition to the medical and hospital sections of the Wagner-Murray-Dingell Bill for the following reasons:

1. It would establish complete bureaucratic control over the practice of medicine, with final authority resting in the hands of a single appointed official.

2. It would destroy the individual responsibility of the

It would destroy the individual responsibility of the physician to the patient and violate the privacy of the relationship of physician to patient.
 It would introduce political control, political preferment, and political manipulation into the practice of medicine and the operation of hospitals.
 It would put an end to all voluntary cooperative efforts, such as the plans for medical and hospital expense insurance.

5. It would debase the quality of medical service through the intervention of politics and the consequent loss of professional integrity and independence.
6. It is in direct violation of the American principles of personal initiative and voluntary enterprise; and be it

further

Resolved, That the Board of Censors urge all voluntary agencies and organizations interested in the development and extension of good medical care to oppose the passage of the medical and hospital sections of the proposed bill;

and be it further
Resolved, That the Board of Censors pledge its aid in the formulation of plans which shall have their genesis in the medical profession and not in those unfamiliar with medical care problems; and be it further
Resolved, That copies of this resolution be forwarded to

Alabama's representatives in both branches of Congress.

As an alternative for this radical, sweeping recommended change in medical, hospital and related benefits in America the medical profession in various parts of the country has presented practical methods of prepayment for such services to assure them when needed. Among the plans now in effect the following few are given as examples:

- 1. Hospital insurance service plan which is functioning quite satisfactorily in this state on a voluntary basis for those who are members of the Hospital Service Corporation of Alabama;
- 2. Contract practice, with which all of us are well acquainted. However, this reaches only a small percentage of the total population in Ala-
- 3. Farm Security Administration health and medical care program which, of course, is available for only those farm families particlpating in the program of this agency, and is not entirely
- 4. The Delaware Medical Care Plan functions on an indemnity principle, covers surgical care only in the beginning, and is operated by the board of trustees of the Group Hospital Service, Inc. Sixty cents is paid each month for surgical coverage by members of the hospitalization plan. An entire family is covered for \$1.65 per month. The physician charges the patient the same fee which he would have charged if the patient had not been a member of the Group Hospital Plan. He collects the difference between the total fee charged and the amount payable under the indemnity schedule from the patient. Participating physicians receive one hundred per cent of the schedule of indemnification and nonparticipating physicians receive only fifty per cent;
- 5. The West Virginia Community Medical Service Plan has been approved by the State Medical Association and a group representing hospital service plans operating in the state have agreed on a basic contract to be used by component county medical societies in the application of regional nonprofit medical service plans. The plans are operated by group hospital service with the joint supervision of an advisory committee elected by the county medical society and a central

state committee appointed by the State Medical Association.

A medical service contract is offered to the public on a periodic prepayment plan to pay the cost in whole or in part of surgical, obstetric and medical service while a bona fide patient in a hospital. Details of the plans and contracts are left to each community and nothing is done that might in the least interfere with the doctorpatient relationship, the patient to have the free choice of hospital and physician. Recognition is given to the fact that the care of the indigent sick is a joint responsibility of the community and the medical profession and every county medical society is urged to make further study in each community toward improving such care if necessary.

6. The California Physicians' Service Plan has been functioning for about five years. Dr. E. Vincent Askey makes the following remarks regarding the service (page 331, California and Western Medicine, June 1943):

We have found that in medical care there are two main classes of service:

1. The Elective Services. Under this class are those things which to the patient are necessary to supply an emotional need, a fear—a phobia, a desire for a check-up physically, a refraction of his eyes. These needs are elective.

2. Nonelective Services. These needs embrace real illnesses—pneumonia, coronary attacks, appendicitis, broken ribs, kidney stones. I need not elaborate—you medical men grasp it immediately.

We are now seeing that elective services should be on a personal or fee basis. The nonelective are those things which are of a common-need basis and should be covered by a prepaid provision. This simple distinction can well be the only criterion needed. Under this plan people who go to the doctor under C. P. S. are sick; those who just are "going to the doctor" go on their own fee responsibility. Now, how can we adjust this and how is it to be done? This is the present status of C. P. S. and its current activities. C. P. S. has discontinued writing full-coverage contracts. There are some of the old original ones still in force, but they are being converted as rapidly as the bookkeeping can physically be done. The next few weeks will bring that phase to a close.

There are only two types of general contracts to beneficiary members being sold:

1. One policy, the surgical, furnishes a basic surgical contract. This includes care of all cutting operations, fractures and dislocations. Laboratory and x-ray examinations needed in the treatment of these conditions are, of course, included. Preexistent conditions are cared for if they are surgical in nature.

2. The other policy is a two-visit-deductible policy. This policy, in addition to the surgical care, provides medical care also, but the patient pays the cost of the first two visits of each separate illness himself. Only on the third call does the C. P. S. contract take up the cost.

We find several interesting things. First: The type of people who desire these contracts is of a higher type as a whole, because they do not expect to take wrong advantage of their contract. Second: These contracts return people to "normal habits" of medical care. In effect, we have now only added the prepayment feature to that part of medical care that is reasonably free of abuse by the patient. Those things open to abuse are still on the old relationship of a fee basis between doctor and patient.

patient.

It is interesting and comforting to see the unit value to be steadily rising on this solid foundation. The current checks in the mail which are for work done in February are on the basis of \$1.75 a unit. To quote Dr. Larsen: "We believe that most of the faults have been corrected and that we are well on the way to show you some real results." He further states: "Under our new two-visit-deductible plan, the member is to pay you for the first two visits. If x-ray, laboratory tests or surgical operations are necessary during the first or second visit, their cost will be paid by California Physicians' Service. The members' dependents (spouse and children, ages 30 days to 18 years) are now being offered care for surgical operations, fractures and dislocations. This 'family plan' is proving very popular among the married members and our membership is increasing each month."

Time and space will not permit going into the merits of the many types of prepayment plans for hospital and medical care that have been made in the United States of America. Casual consideration of the few instances cited in the preceding paragraphs will cause one to realize the importance of the medical profession formulating general plans for such services on a statewide basis with the approval of the State Medical Association and permitting county medical societies to handle such matters as fixing dues, fees and other details.

Members of the Association are urged to study the statement of general policies published by the Council on Medical Service and Public Relations on page 634 of the Journal of the American Medical Association, November 6, 1943.

This expression of the Board relating to federal registration for medical care received the hearty endorsement of the Association.

STATE LEGISLATION

The 1943 Legislature of Alabama adjourned on July 2 after having passed several progressive measures that are of interest to the medical profession. Shortly after the assembly and organization of the Senate, Dr. T. J. Jones, Senator from the Eighteenth Senatorial District, comprising Bibb and Perry Counties, introduced practically all the bills proposed by the health department. They had been studied by the Interim Committee on Health and were reported favorably. The following paragraphs include provisions of bills passed by the Legislature, which were approved by Governor Chauncey Sparks:

- 1. S. 22 promotes the diagnosis, prevention and treatment of cancer by establishing cancer units in general hospitals or private clinics, and authorizes educational campaigns for cancer control. An appropriation of \$30,000 was made for the first year ending September 30, 1944 and \$50,000 for the second year ending September 30, 1945 to carry out the provisions of the Act.
- 2, S. 35 authorizes the establishment of a four-year medical school in Alabama to be under the sole management, ownership and control of the Board of Trustees of the University of Alabama, and appropriated \$1,000,000 for building the school, \$25,000 for a building commission to establish the school and \$366,750 annually for maintenance.
- 3. S. 36 increases the state's contribution for treatment of tuberculous patients in county tuberculosis hospitals from a maximum of seventy-five cents per day to one dollar, and increases the annual appropriation from \$75,000 to \$175,000 for this purpose. Of this amount \$74,000 is conditional upon the approval of the Governor, who has approved. This measure also provides for an appropriation of \$10,000 a year for the operation of tuberculosis treatment clinics.
- 4. S. 37 requires samples of water supplied for human consumption to be submitted to the State Board of Health every month for tests instead of once every three months as required heretofore.

5. S. 38 increases the salary of the State Health Officer from \$3,600 to \$6,000 per annum. Specific appropriation was made to carry out the purpose of this Act.

6. S. 40 provides for examination by the county health officer or other reputable physician of any person believed, on reasonable authority, by the county health officer to have a venereal disease.

7. S. 41 amends the laws relating to registration of births and deaths providing: (a) clarification regarding the filing of delayed certificates, (b) raise of pay to local registrars from twenty-five to forty cents for each certificate filed with twenty cents of that amount to go to a deputy registrar in areas where it is necessary to have a deputy, (c) appointment of a county registrar with deputy registrars where necessary to secure better registration, (d) substitution of a new certificate in the new name in cases of legitimation and the filing of the old certificate with the papers of legitimation in a sealed envelope.

8. S. 42 provides for the registration of found-

lings and a foundling report.

9. S. 46 allows rabies inspectors to charge a fee of seventy-five cents, including cost of vaccine for each dog vaccinated to prevent rabies.

10. S. 64 requires a blood test for syphilis of all persons living in Alabama between the ages of fourteen and fifty years and appropriates an amount not to exceed \$75,000 to carry out the provisions of the Act.

11. H. 113 allows a person to establish a public birth record by court procedure where impossible to obtain birth certificate from the Bureau of Vital Statistics.

Appropriations included in the budget for the department of health, not mentioned in the preceding paragraphs, are as follows: (1) for other salaries and expenses \$223,500; (2) for contributions to county health units \$202,900; (3) for other expenses, conditional upon the approval of the Governor, \$25,000, which was approved. This makes a grand total of \$747,400 for the fiscal year ending September 30, 1944 and \$767,400 for the fiscal year ending September 30, 1945.

The bill introduced at the suggestion of the State Association of Chiropractors, authorizing a separate board of examiners to license chiropractors, was defeated in committee after the Chairman of the State Board of Censors, accompanied by members of the Board and other interested physicians, appeared before the committee to oppose its passage. Much assistance was given to this accomplishment by physicians back home who contacted legislators between the time of introduction and consideration by the committee. However, the Secretary of the Board was advised by prominent chiropractors, who had been lobbying for the passage of the bill, that the Chiropractic Association will return in 1945 with renewed efforts to have a similar bill passed. We must therefore acquaint legislators with the importance of seeing that such a bill is defeated if and when it is introduced.

The Association approved the Board's comments relating to state legislation.

MERIT SYSTEM UNIT FOR COUNTY HEALTH WORK

The State Personnel Board is the Merit System Council for county health service.

On June 23rd six hundred (600) forms requesting job descriptions were mailed employees in county health service, of which 570 had been returned on July 15th. An overall study of the work of these several employees was made and the following classifications established:

	Presently
	Employed
A. County Health Officer I	30
County Health Officer II	19
Assistant County Health Officer	
Public Health Dentist	
B. Sanitation Officer I	5
Sanitation Officer II	
Sanitation Officer III	
Milk and Meat Inspectors	
C. Nurse in Public Health	
Nurse-Midwife	5
Public Health Nurse I	74
Public Health Nurse II	9
Public Health Nurse III	1
Public Health Nurse—War Emers	gency 37
D. Bacteriologist III	1
Technician I (Bacteriology)	1
Technician I (X-Ray)	1
E. Clerk I	
Clerk II	6
Typist I	
Typist II	39
F. Health Attendant	7
Janitor	
Excluded from Classification	3
Jefferson County Classification	
Deferred	180
G. Health Officers serving two count	
Sanitation Officers III serving two	0
counties	8
Sanitation Officers III serving thr	ee
counties	1

Employees of the Mobile County Health Department, excepting the professional medical officers, already operating under an acceptable merit system, were permitted to continue under that system.

Pending a decision relative to the inclusion into the Jefferson County Merit System of the Jefferson County Health Department it was judged advisable to defer allocation of the positions in that jurisdiction.

Rules and regulations for the establishment and maintenance of a merit system of personnel administration for the county health service in the State of Alabama were drawn up and a review made for compliance with standards of those agencies by the U. S. Department of Labor, Children's Bureau, and by the U. S. Public Health Service on September 20, 1943. Changes were made as required by these agencies. The rules and regulations were presented to the State Health Officer for approval and were adopted by the State Committee of Public Health on November 29, 1943.

Descriptions of the duties of each class of position and specifications as to experience and train-

ing required for entrance to each class and the pay plan for county health service were presented to the U. S. Public Health Service and to the U. S. Department of Labor, Children's Bureau, January 17, 1944. No changes were required. Certain suggestions for changes were made, most of which will be incorporated into the specifications.

The rules and regulations, the class specifications and the pay plan were submitted to the County Health Officers, with the announcement of the tentative allocation of each position in their respective departments, on January 15, 1944. At the same time a public hearing by the Merit System Council was announced to take place February 8, 1944. None appeared to be heard and the rules and regulations, the class specifications and the pay plan were declared formally adopted for the administration of county health service on February 8, 1944, to become effective April 1, 1944.

Job descriptions reviewed	570
Classifications established	23
Allocations to classifications	400

The following examinations were scheduled to be given in March 1944:

County Health Officer Series—Unassembled. Milk and Meat Inspector (Doctors of Veterinary Medicine) Unassembled.

Sanitation Officer Series—Prepared by the Supervisor in collaboration with the Bureau of Sanitation of the State Department of Health.

Clerical Series—Prepared by the Supervisor. Nurse-Midwife—Prepared by the Director of the Nurse-Midwife Training School, Tuskegee, Alabama.

Nurse Series—Prepared by the American Public Health Association.

Technician—Bacteriology I—Prepared by the American Public Health Association.

This report of the work of the Merit System Unit for employees of county health departments was approved by the Association.

RESEARCH AND SPECIAL ACTIVITIES

LABORATORY FOR RABIES RESEARCH

The program of this laboratory during 1943 had as its principal objective the study of rabies, its epidemiology and prevention. Especial emphasis was placed on developing a more potent vaccine by standardization of production methods and the improvement and standardization of the methods of testing rabies vaccines for potency. Now that canine rabies vaccination has been shown to be an important feature of rabies control work this laboratory has served as a source of information on rabies and its control both for the United States and other countries. The facilities of the laboratory are now largely employed for the study of the duration of immunity following vaccination.

During the year this laboratory received virus specimens from several states and also from Mexico, Venezuela, Ecuador, and Brazil for identification. This is due to the fact that this laboratory is the only one primarily engaged in the study of rabies and which is equipped to

identify rabies virus by neutralization, complement fixation and cross protection tests. The laboratory also functioned as a diagnostic unit for Alabama by testing brain specimens from animals suspected of rabies but where the microscopic examination proved negative.

In view of the fact that this laboratory is engaged in virus research it also functioned as a source of information about the diagnosis of virus diseases other than rabies, such as poliomyelitis, lymphocytic choriomeningitis, equine encephalomyelitis, lymphopathia venereum, psittacosis and influenza. A number of spinal fluid specimens from cases of undiagnosed encephalitis were also studied by animal inoculation. The objective of this laboratory is to develop diagnostic aids for the identification of the various virus diseases to complement the regular bacteriologic diagnostic studies of the State Health Department. The difficulty in the diagnosis of virus diseases lies in the fact that the etiologic agent cannot be seen in stained preparations. Only if characteristic inclusion bodies develop, such as the case with rabies, can the disease be identified by this method. The diagnosis of virus infections otherwise depends either on the isolation of the virus by the inoculation of animals or by testing the serum of patients taken during the acute stage of the disease and again three to four weeks later, by neutralization and complement fixation tests.

Rabies Control—Rabies will remain widespread over the United States until the control work is coordinated on a national basis under one agency. The freedom of transport of dogs from one community to another and from state to state makes it inevitable that no region is free from the threat of the disease. In several states the disease is limited to occasional sporadic cases introduced by the arrival of infected dogs from other areas. Education of the public about the disease and its prevention is the most effective weapon in controlling rabies. Now that good scientific evidence is at hand for the use of vaccination it is possible to use this method of control as an important adjunct to other sanitary procedures. The field experience with rabies vaccination in Alabama has formed a valuable basis for a practical rabies control program.

Rabies Control in Alabama—During the period 1932-1936 from 836 to 1,107 animal heads were found positive for rabies each year in Alabama. The compulsory vaccination program was begun late in 1937. During that year 927 animal heads were found positive for rabies and 3,794 human rabies treatments were distributed. There was a rapid reduction in the state-wide prevalence of rabies in 1938-1939. In 1939 only 237 animal heads were found positive for rabies and the number of human rabies treatments dropped to 1,230.

In 1940, 1941 and 1943 there were no human cases of rabies. Two persons died of rabies in Alabama in 1942. During the previous eight years an average of three persons died of rabies annually in this state. Only 886 rabies treatments were distributed in 1943. Whereas the disease had previously been widespread over the

state before 1937 it soon disappeared from most of the counties. Some counties however failed to carry out the rabies control work. In 1942 only three counties of the sixty seven in the state had more than isolated cases of rabies and forty-five counties reported no rabies. The three counties mentioned above accounted for 181 of the 220 cases of animal rabies reported during the year. None of these counties appointed an inspector to carry out the provisions of the law. Eight counties reported only one case of rabies and the other eleven counties had from two to four reported cases of animal rabies. During the period 1937 to 1943 Mobile County had an average of 108 reported cases of animal rabies a year. During 1942 this county submitted 157 of the 220 animal heads found positive for rabies in the entire state. As a result of an outbreak of fox rabies in this county early in 1943 many dogs were vaccinated on a voluntary basis and the incidence of dog rabies dropped markedly. Fox rabies, however, continues to be a serious problem. In 1943 only eighty-six cases of dog rabies were reported in Alabama. This contrasts with 198 reported cases of dog rabies in 1942. Mobile County had fifty-three of the eighty-six cases of dog rabies reported in 1943. No other county reported more than four cases of dog rabies during the year. Thirty one foxes were found positive for rabies by laboratory examination.

Questionnaires were mailed to all persons submitting rabies positive dog heads and in only one instance was it found that the dog had been vaccinated within one year of the onset of the disease and only four others had ever been vaccinated, one of these a week before the onset of the disease. A particularly good example of the effect of a vaccination program is the experience of Montgomery County, Alabama, where unvaccinated dogs are allowed the freedom of the streets. Only dogs without current vaccination tags are picked up. Table I shows the dog control activities for the years 1936 to 1943. In April 1940 a dog developed furious rabies in the city. This dog had been brought to the city from Florida. Two persons were bitten and several dogs exposed. No secondary cases of rabies developed despite the fact that the salivary glands of this dog were found to contain a high concentration of rabies virus. In 1943 a cat was found positive for rabies. This cat belonged to a family that had moved to Montgomery from Florida. They brought a young chow dog with them and this

TABLE I
RABIES CONTROL ACTIVITIES, 1936-1943
MONTGOMERY COUNTY, ALABAMA

	Dogs	Dogs		Positive
	Vacci-	Im-	Dogs	Animal
Year	nated	pounded	Killed	Heads
1936				74
1937	6,012			23
1938	7,604	2,033	1,801	29
1939	6,778	1,048	684	0
1940	7,700	886	631	1 (dog)
1941	6,099	675	400	0
1942	5,809	806	466	0
1943	6,646	852	547	1 (cat)

dog died of an undiagnosed illness shortly after they arrived. The cat, which was obtained in the city, developed furious rabies a few weeks later. The cat attacked several dogs but none of these developed the disease. Except for these two cases of rabies, both traced to out of state sources, the county has been free of the disease for five years while in previous years the disease was constantly present.

As a part of the control program this laboratory prepared a pamphlet about rabies and its control which is sent to all persons submitting dog heads for diagnosis and to those that take the rabies treatment. The rabies inspectors also distribute these pamphlets and this has been a very useful procedure. All positive reports of animal head examinations are immediately referred to the rabies laboratory and the local rabies inspector is notified to investigate. The State Veterinarian likewise gets the report and gives assistance in sending sanitary inspectors to those counties that have not appointed a rabies inspector. Reports of rabies in wild animals are mailed to the Department of Conservation, Wild Life Division. There has been a gradually increasing interest in the program.

In cities where no dogs are allowed the freedom of the streets rabies is not a problem. This type of ordinance has been well enforced in Birmingham where from 5,000 to 6,000 dogs have been impounded and killed each year for the past five years. However, in suburban districts and rural areas and in cities where dogs are allowed to run the streets, rabies will continue unless all dogs not constantly confined are vaccinated. Dog pound activities should be active throughout the year, otherwise there is constant danger of an outbreak of rabies from stray dogs.

Fox Rabies—In 1890 and for a few years thereafter fox rabies was a serious problem in Baldwin and Mobile Counties. The disease finally killed practically all of the foxes in that part of the state. From that time until 1942 there were no reported cases of fox rabies. The first case of fox rabies in 1942 occurred in October at Mount Vernon. This department had warned about the danger of fox rabies in that area as this species had become very numerous and dog rabies was widespread in that region. In the last three months of 1942 over 100 foxes were killed on farm premises in Mobile and Washington Counties. Sixty-three domestic animals were known to have died of rabies and fifteen persons were bitten by rabid foxes. All the people bitten by foxes were given the rabies treatment and none succumbed to the disease. As no coordinated program of fox hunting was adopted it was necessary for the people living in the affected area to organize a fox control program. Due to the rapid spread of the disease in foxes the majority of these animals died of rabies. The remaining foxes in the area of the original focus were killed but as only the affected area was engaged in hunting foxes the disease spread quickly to surrounding areas which again were overpopulated with foxes and new foci continue to develop. At present fox rabies is still occurring in Mobile, Washington, Clarke, Choctaw, Dale and Coffee Counties.

It is important that the heads of foxes suspected of rabies be sent to one of the laboratories of the State Health Department for examination so that there is definite evidence of the extent of the disease. Pamphlets about rabies can be secured from the Health Department which furnish the necessary information about the disease and how to get animal heads examined for rabies.

Tularemia—During the early part of 1943 both of the technicians employed at the Rabies Laboratory developed tularemia in the course of a study of an unidentified pathogen isolated from dogs. As a result of this experience some new information was obtained about tularemia. It was demonstrated that dogs and cats are susceptible to the disease and that B. tularense has a special affinity for the respiratory tract. tending to persist in the nasopharynx after clinical recovery. A new method of diagnosis was developed. This consists of testing the sputum or nasal secretion from suspected cases of tularemia by intraperitoneal injection into mice.

Primary Atypical Pneumonia—A study of this clinical entity was continued in 1943. A fatal case of encephalitis developing during convalescence from primary atypical pneumonia was also studied. Despite extensive bacteriologic and animal inoculation studies we failed to isolate a specific pathogen from this case or from sputum specimens from other cases.

CULLMAN COUNTY MATERNITY CARE PROGRAM

January 1, 1944 marked the end of six years of maternity nursing service in Cullman County, which was instituted:

1. To educate mothers and fathers to the need and value of medical care throughout the maternity cycle,

2. To demonstrate that adequate maternity care will reduce maternal and infant morbidity and mortality.

The work was begun with the addition of two nurses to the staff of the Cullman County Health Department who assisted at delivery. The nursing service at delivery was gradually integrated into the work of the entire staff and has so continued to the present. The emphasis has been upon early registration of expectant mothers and continuous medical supervision and adequate preparation for delivery. Packs were assembled by the mothers and sterilized at the health department.

The value of the service is shown in the reduction of the stillbirth, neonatal, infant and maternal death rates. The stillbirth rate has decreased seventeen per cent in the six-year period and the other rates have decreased more than fifty per cent. A study of the deliveries attended by one of the local physicians in 1943 reveals that ninety three and eight-tenths per cent of his patients received medical care during pregnancy with an average of four and nine-tenths visits per case. In 1938 only forty-five per cent of his patients were seen prenatally with an average of one and eight-tenths visits per case.

In August 1943 a review and analysis of the service was made and certain changes of em-

phasis suggested. It is felt that nursing service at home delivery should be limited to abnormal or problem cases. Sterile packs are still supplied and the presence of the nurse at the delivery would probably not add a great margin of safety. Most of the primiparas are delivered in the local hospital. Hospital deliveries have increased from two per cent to forty per cent in the six years since the service was instituted. This was made possible by the building of a new hospital in 1940. While the total number of infant deaths has decreased the cause of deaths in infants has shown little change. Prematurity is very high and is still causing over a fourth of the infant deaths. Beginning January 1, 1944 a greater effort will be made to secure prompt reporting of prematurity to the end that adequate care may be instituted.

TUSKEGEE NURSE-MIDWIFE TRAINING SCHOOL

The ground work for the Tuskegee Nurse-Midwife Training School was laid on August 1, 1939 when nurse-midwifery service was offered in Beats Four and Five in Macon County. At the same time hospitalization for problem maternity cases and sick infants was provided at the John A. Andrew Memorial Hospital in Tuskegee. A Negro obstetrician was attached to the Macon County Health Department to serve as clinician in the maternity clinics of the county and attend hospital deliveries of indigent cases. The service was further extended by the addition of three nurse-midwives in March 1941.

On September 1, 1941 a white nurse-midwife was secured to direct a school of nurse-midwifery. Thirteen Negro nurses have been graduated to date, three from Florida, one from Georgia, two from Arkansas, one from South Carolina and six from Alabama. The Macon County nurse-midwife staff, in common with other health services in the state, suffered the loss of personnel during 1943, and training was largely discontinued the latter half of the year. In October the staff was brought to its former level of five nurse-midwives and training was resumed. Two students are in attendance at the present time.

Recognizing the benefits other states derive from such a school the federal Children's Bureau has agreed to provide a basic budget for the Tuskegee Nurse-Midwife Training School thereby relieving Alabama of financial responsibility.

It is believed that a nurse-midwife service will add appreciably to the safety of childbearing in the Negro low income group. Such a service promotes medical supervision in clinics, and provides supervision of granny midwives, delivery attendance and nurse supervision for this needy group.

SLOSSFIELD HEALTH CENTER

This demonstration Negro health center, conducted by Negroes under the supervision of white consultants, and directed by the Jefferson County Board of Health, has continued to function quite satisfactorily. The improved character of the practice now done by the Negro physicians instructed at Slossfield is reflected by the vital statistics for the area covered. Accomplishments

have been praiseworthy and those intimately associated with the project confidently look forward to its future possibilities.

The project is supported with funds derived from local (public and private), state and federal sources. The following types of clinics are conducted: tuberculosis, venereal disease, maternal health, child health and dental. Thirteen local Negro physicians participated during the last year on a part-time basis and five full-time Negro physicians were employed for varying periods of time.

The services rendered at all of these clinics are similar to those made available elsewhere in the state. However the Slossfield maternity service deserves special mention because of its farreaching effects. As has been previously reported, this service includes a threefold purpose:

1. To develop a teaching center and area for Negro physicians and nurses;

2. To elevate the standards of obstetric and neonatal care given by these two professional groups; and

3. To demonstrate that adequate maternity care will reduce maternal and infant mortality

and morbidity.

The program provides a complete maternity service, including home and hospital delivery for those patients attending the prenatal clinics at Slossfield and living within a radius of two and one-half miles of the center. There is a ten-bed maternity hospital at the center. The obstetric consultants classify patients according to need for hospital or home delivery based upon parity, complications, home conditions and accessibility. Eligibility of patients to receive the service is determined by social workers and public health nurses. Pediatric consultation for the newborn is provided by white pediatricians.

Careful supervision is given the Negro clinicians by obstetric consultants at prenatal, postpartum and child spacing clinics. The proper management of abnormal cases is discussed fully with the clinician who is accompanied by the junior consultant and a nurse at the delivery. Regular lectures are given by the senior consultant to the entire group of clinicians. These experiences help the clinician to appreciate the value of high standards maintained on the service and encourages him to follow them in his own private practice. Prenatal patients who have a history of positive serologic tests for syphilis with or without treatment or have positive laboratory findings are referred to the venereal disease clinic and required to take treatment.

Observation reveals that Negro physicians and nurses are now rendering a medical service with standards far superior to those practiced prior to their experiences at Slossfield. There are also many indications that the standards of maternity services rendered by the clinicians participating in this project are definitely improved. Comparison of the Slossfield maternity and infant mortality and morbidity rates with those outside the area reveals considerable reduction in the former group where more adequate maternity care has been made possible. This demonstration center offers great potentialities for field

training of Negro physicians and public health workers interested in maternal and child health.

The foregoing sections of the Board's report relating to research and special activities were approved by the Association.

THE PRESIDENT'S MESSAGE OF LAST YEAR

Dr. Harvey B. Searcy made three recommendations that would require amendments to the Constitution of the Association. They were therefore submitted by the Board last year without comment and held over for action at this meeting.

The Board disapproves the recommendation to change Section 1, Article VIII, for the election of a President-Elect and one Secretary and Treasurer. It is the opinion of members of the Board that the Medical Association of the State of Alabama is not large enough to require the services of a President-Elect because the President can, as a rule, meet all engagements to represent the organization without too great effort. After mature consideration of this recommendation it was voted unanimously by the Board to leave this part of the Constitution unchanged and to let it remain as the founders of our organization expressly desired. Further, no action is indicated in the matter of the office of Secretary-Treasurer since this was dealt with in ordinance adopted by the Association in 1940, and no further action is indicated at this time.

The recommendation of the Board was adopted by the Association, Section 1 of Article VIII of the Constitution remaining unchanged.

The Board gave serious consideration to the recommended change in Section 31, Article XIII, which reads as follows:

When acting as a State Committee of Public Health—the Governor being ex officio chairman—the Board shall, through its executive officer—the State Health Officer—supervise and direct the administration of the public health and quarantine laws of the state.

The President recommended that this be amended to read as follows:

When acting as a State Committee of Public Health—the Governor being ex officio chairman, and the President being ex officio a member—the Board shall, through its executive officer—the State Health Officer—supervise and direct the administration of the public health and quarantine laws of the state.

The Board is in accord with the sentiment expressed in this recommendation that the President of the Association should meet with the Board of Censors when sitting as a Committee of Public Health. By attending meetings of the Board he could learn much to prepare him for later service as a member of the Board. However, it is the opinion of the Board that each President from year to year might not be sufficiently acquainted with the many complex public health problems to take an active interest and to consider them seriously. It is therefore recommended that Section 31, Article XIII, remain unchanged.

The Board's recommendation that Section 31 of Article XIII of the Constitution remain unchanged was adopted by the Association.

The Board concurs in the recommendation regarding the election of the State Health Officer, as amended; Section 6 of Article XIII then to read as follows:

The Board shall elect by not less than a majority vote of its members an executive officer, who is a qualified physician and eligible for licensure in Alabama, to be known as the State Health Officer, and shall submit the name of the officer so elected to the Association (the State Board of Health), in annual session, for confirmation.

The President: The Secretary will now call the roll on the adoption of the amendment to Section 6 of Article XIII of the Constitution. Those in favor of the amendment will answer Aye and those opposed No as your names are called.

Whereupon the roll was called with the following result:

Those voting Aye: Counsellors C. T. Acker, Austin, Barber, Caldwell, Cannon, F. L. Chenault, Craddock, Dabney, Daves, Davie, Denison Ford, Harris, Hatchett, Robert L. Hill, Hubbard, Paul Jones, Kennedy, Killian, Long, Lull, E. M. Mason, J. M. Mason, Mayer, C. W. C. Moore, D. S. Moore, Morgan, Noland, Perdue, Riggs, Rucker, Scott, Searcy, Segrest, Stallworth, Tankersley, Walker, Ward, Welch, Weldon, Wilkerson; Delegates Abernethy (Pike), Allen, Baumhauer, Berry, Blair, Boulware, Carmichael, Chason, Cole, Cotlin, J. H. Dodson, Duncan, Ferry, Gladrey, Goode, Guyton, Hagood, Hodges, W. H. Jones, Frank Jordan, H. C. Jordan, O. L. Jordan, Lawson, Lineberry, Littlepage, McNease, Miller, E. M. Moore, Posey, Sims, Smith, Stewart, Waldrop, Weidner.—Total 76.

Those voting No: Counsellors R. S. Hill, Wilkinson; Delegate Bobo.—Total 3.

The President: Seventy-six votes having been cast in favor of adoption of the amendment and only three in opposition, I declare Section 6 of Article XIII amended as recommended.

THE PRESIDENT'S MESSAGE

In the masterful message of our President this year we find not only a resume' of conscientious work well done but also practical suggestions to meet some of the problems confronting the medical profession and public. While he graciously expressed his gratitude for the honor bestowed upon him when he was elected President, all of us know that he brought increased esteem to the Association by serving in that capacity.

The President paid just tribute to the members of the Association who have efficiently rendered services to the people of Alabama in spite of tremendous obstacles during an unprecedented emergency. Particular attention is directed to the unselfish services of the officers and committees of the Association. Special mention is made of the cooperation given by Governor Sparks and members of the Legislature for making a four-year medical school possible.

Greetings are extended to the Woman's Auxiliary to the Association. The Board feels that the physicians' wives should be encouraged to have active units of the Woman's Auxiliary in every county possible. It is believed that the Auxiliary is doing good work that can be increased by establishing a greater number of units.

All of us recognize the importance of having a medically trained person serve as coroner and wherever possible this office should be held by a legally licensed physician. The study of this recommendation of the President should be made with diligence and concerted action taken by the Association to rectify the situation. The Board therefore recommends approval of this recommendation.

Recognition is given to the truths expressed so ably concerning socialized medicine and the need for the profession to formulate a plan that will assure medical care for all civilians and cause the community to recognize and assume its responsibility for helping to provide that care.

The Board is in accord with the views of the President regarding the need for a committee to study the medical care problems and approves the recommendation that the incoming President appoint a Postwar Planning Commission of three or more members. It is suggested that each division of the Association have representation on this committee that should begin to function as promptly as conditions permit.

The recommendation that a member of the State Board of Censors be ineligible to succeed himself after a second term of five years will require an amendment to the Constitution and must lie over for one year before action may be taken upon it, and the Board so recommends.

The Board commends the President for his scholarly presentation of the situation and practical suggestions for the solution of some of the problems of medical care that confront the people. It is recommended that the Association express its profound gratitude for the outstanding administration he has conducted and appreciation for the excellent program given at the annual meeting in Montgomery April 18-20, 1944.

The Association approved the Board's recommendations on the President's Message.

REPORTS OF VICE PRESIDENTS

The effect of the war is reflected in the report of each Vice President. Meetings were restricted to one in each division except the Northwestern where no meeting was held. These were well attended and splendid programs presented. No one should have anticipated that the Vice Presidents would have visited individual county medical societies because of traveling conditions and the need for their professional services in their local communities. Nevertheless, there was considerable traveling done by the Vice Presidents to stimulate interest of physicians in their medical organization and program. Observation was made that in those counties where serious efforts were made to hold meetings they were well attended and much good was accomplished. One report urged that regular meetings of each county medical society should be held and emphasized

that the county medical societies are the backbone of the Association. When the recommendations of the Vice Presidents are made effective in every county with a well arranged program at each meeting there is no doubt we shall have a stronger Association with wholesome effects upon organized medicine.

The Board concurs in the reports of the Vice Presidents and recommends approval by the Association with a determination to put the sug-

gestions into practical application.

The Board's recommendation was adopted.

REPORT OF THE SECRETARY-TREASURER

Attention is directed to the fact that there has been no change in the number of physicians practicing medicine in the State since the last annual report except for the twenty-six physicians who died since our 1943 meeting. The Board deplores the loss of these our fellow counsellors and members. Particular mention is made of the passing of Dr. William M. Cunningham, Life Counsellor and Past President of the Association; and Dr. Seale Harris, Jr., who died in the service of his country.

The Association is reminded of the importance to be attached to the duties of officers, chairmen of committees and counsellors and is urged to give serious consideration to the election of officers and counsellors. We should be sure that those elected to these positions of trust and honor are persons having the qualifications of liberal culture, devotion to scientific and practical medicine, and fidelity to the system of organization embodied in the Constitution of our Association.

The audit of the Treasurer's books made by Crane, Harper and Wilson, Certified Public Accountants, indicates that the finances of the Association have been handled strictly according to authority granted by its mandates. It also reveals a wholesome state of affairs. On December 31, 1943 there was a balance of \$5,202.04 in the checking and savings account and ownership of War Savings Bonds, with maturity value of \$16,500 (present redemption value is \$10,990).

The Board recommends approval of the report of the Secretary-Treasurer.

The Secretary's report was approved.

COMMITTEE OF PUBLICATION

Some of the difficulties encountered in the publication of the Journal are enumerated in the report of this committee. The Board urges physicians who have material that should be of interest to the profession to contribute articles to the Editor in Chief, Dr. Douglas L. Cannon, for publication in the Journal. Our Journal is the official organ of the Association through which accurate information is transmitted to the profession currently. Each copy should be read carefully by every one who receives it. It is encouraging to observe that financing the Journal is accomplished through advertising and member and non-member subscriptions, making publication possible without extra cost to the Association.

The Board recommends approval of the committee's report with an expression of apprecia-

tion by the Association to the Editorial Staff and others who contributed to the accomplishments of the Journal.

The report was approved.

REPORTS OF STANDING COMMITTEES

PUBLIC RELATIONS

The Board approves the report of this committee and recommends that each county society take an active part in acquainting the public with the legislative and other activities in which the profession is interested.

The Association endorsed the recommendation of the Board.

MENTAL HYGIENE

The Board recognizes the many handicaps experienced by this committee and fully appreciates the efforts that have been made under circumstances that might have easily discouraged its members. The committee is commended for activities which have stimulated interest and encouraged lay groups attempting to handle present-day problems of war psychology, delinquency and associated breaches of the law. The committee has been active and instrumental in laying a sensible foundation for practical work in the psychiatric field.

The Board concurs in the broad and far-reaching recommendations of the committee and expresses its confidence in and respect for the members who have given time and thought to the many complexities involved. Physicians need to be in accord, well informed and determined to provide mental health facilities for all citizens.

It is recommended that the report of the committee be approved and every member of the Association familiarize himself with the needs and possibilities of mental hygiene.

The recommendation of the Board was adopted.

MATERNAL AND INFANT WELFARE

This committee made a comparison of its statistical report that was made in 1934 with the one for this year, which revealed interesting accomplishments. In maternal mortality for example there were 177 fewer deaths in 1943 than occurred ten years previously. Figures from two typical counties were given where maternity and child health clinics have been conducted which showed for the rural county one hundred per cent reduction in maternal mortality, ninety four per cent reduction in stillbirth mortality and eighty per cent reduction in neonatal mortality. In the urban county there was sixty eight per cent reduction in maternal mortality, forty six per cent reduction in stillbirth mortality and eighty per cent reduction in neonatal mortality.

No single cause was given as the reason for these marked reductions. However, increased interest on the part of the public to seek more adequate prenatal delivery and postpartum care has contributed its share to these splendid results. In addition, physicians have shown a growing interest in providing this care at clinics and in their practice which has been instrumental in causing this downward trend.

Physicians are urged to cooperate in the emergency maternal and infant care program for wives and infants of service men in the four lower pay grades. This program is recognized as one that is not all the medical profession desires but is a patriotic service being rendered those who are offering their full services to our nation in time of urgent need.

The Board commends the committee for its efforts and recommends approval of the report submitted with appreciation expressed to all physicians who have cooperated to make the maternal and infant welfare program succeed as well as it has.

well as it mas.

The report was approved by the Association.

CANCER CONTROL

The attainments of this committee, working in close harmony with the Women's Field Army, are commendable, although it is recognized that much remains to be accomplished. Nevertheless, it appears that the program is functioning on a sound basis and we may confidently anticipate excellent results. It certainly shows that much work has been done and the public is awakening to a realization of the importance of promoting activities in the field of cancer control.

The report of the committee has the approval of the Board and it is recommended that:

1. Continued cooperation of the medical profession be given the committee and the Women's Field Army;

2. Enthusiastic support be given to the educational program for the public regarding cancer;

3. Discussions of cancer control be conducted each year at one or more meetings of every county medical society; and

4. Continued cooperation be given the clinic groups organized to diagnose and treat cancer of the indigent.

The recommendations of the Board were approved by the Association.

POSTGRADUATE STUDY

This committee, like so many others, was distinctly handicapped during the year because of war-time conditions and naturally had very little to report in the way of accomplishments. It is urged that every member keep in mind the possibilities when the duration is ended and coperate in the renewal of the postgraduate courses of instruction.

The Board concurs with the committee in its report and recommends approval with suggestion that the members of the Association hold themselves in readiness to renew the program of its activities when the present emergency situation is over.

The Association concurred in the Board's recommendation.

ARCHIVES AND HISTORY

This committee has been unable to function satisfactorily for the same reason that most physicians find that they cannot participate in all the activities they desire. History is being made, however, and it is urged that accurate record be kept of the important events taking place in order that they may be reported when opportunity presents after the war.

The Board is in accord with the views expressed in the report of the committee and recommends its approval by the Association.

The report of the committee was approved.

PHYSICIAN-DRUGGIST RELATIONSHIPS

The report directs attention to the friendly relations existing between the Alabama Medical and Pharmaceutical Associations. Opinion is unanimous that a greater number of county medical societies should have joint meetings with the local druggists as was reported for Jefferson County. Such meetings will promote more cordial understanding between the two allied professions.

The committee, at the request of the Pharmaceutical Association, stressed the importance of giving greater publicity to the possible harm that may come from the layman purchasing dangerous drugs other than on the prescription of a physician. Some of the more popular drugs of this classification are aconite, acetanilid, the barbiturates, benezedrine sulfate, bromides and their combinations, the sulfa drugs, tansy, thyroid and anthelmintics. There are many others and if physicians exercise precautions by warning people of the dangers that will likely arise from their indiscriminate use it will be helpful.

The Board recommends the adoption of the report and calls attention of future presidents and the Secretary of the Association to the recommendation that an essayist from the Pharmaceutical Association be included on the program each year.

The report was adopted by the Association.

FOUR-YEAR MEDICAL SCHOOL

The opening paragraph of this committee's final report conveys a heartening message in the statement that it "has completed its assignment." Persons who have watched with growing alarm the decrease in the number of active practicing physicians in Alabama since the discontinuance of the four-year medical school at Mobile in 1920 are hopeful that the new school will soon become effective in replenishing this number. It is believed that the provisions of the bill to make available a sizeable appropriation for building and equipment, adequate maintenance and one \$400 scholarship a year for each of the counties of the state will help materially in providing more physicians, particularly for rural Alabama, within the next few years.

The Board feels that the securing of a fouryear medical school, with its purchase grant and maintenance appropriation, which was only made possible by the statesmanship of Governor Chauncey Sparks and the wisdom of the Legislature, is the achievement of the century in Alabama medicine. The Board, therefore, recommends that this Association extend its appreciation to our Governor and to our Legislature for this epochal contribution to our medical progress in Alabama not only, but throughout our South-

The fact that this committee has satisfactorily completed its assignment can be attributed in a great measure to the indefatigable efforts of its chairman, Dr. W. D. Partlow. He went about the organization of his committee and campaign for funds in an orderly, systematic, forthright manner and he pursued it tenaciously, leaving no stone unturned until success was assured. The thoroughness with which the plans were made is not completely apparent when one casually reads the report stating what was done because it was not as easily accomplished as the report might indicate.

The Board wishes to thank Dr. Stuart Graves, Dean of the Two-Year Medical School of Alabama, for his efforts toward the education of the profession and the people of Alabama for the need of a four-year medical school. Ever since he came to Alabama as Dean of the Medical School at the University of Alabama he has preached the need of a four-year medical school at medical and lay meetings, and he accompanied Dr. S. A. Gordon on a tour of South Alabama in the effort to have all medical societies of Alabama one hundred per cent behind the movement for a four-year medical school. To him and a thousand others, whose efforts contributed to the grand total that it took to realize a fouryear medical school, the Board recommends the thanks of the Association and the people of Ala-

The Board recommends that the deep appreciation of the Association be extended the committee, as well as to the county medical societies and individual members of the profession who conferred with Governor Chauncey Sparks and the State Legislators.

The Board recommends also the approval of this last report and the discontinuation of the Committee on the Four-Year Medical School, with expressions of appreciation for a worthy job well done.

The Board further recommends that the Secretary of the Association be instructed to mail the following letter to the Governor and every member of the State Legislature:

The Medical Association of the State of Alabama feels that the securing of a four-year medical college, with its purchase grant and maintenance appropriation, which was only made possible by the statesmanship of Governor Chauncey Sparks and the wisdom of the Legislature, is the achievement of the century in Alabama medicates.

The State Medical Association extends its appreciation to our Governor and to our Legislature for their unanimous vote for this epochal contribution to our medical progress in Alabama not only, but throughout our South-

The recommendations of the Board relating to the report of the Committee on the Four-Year Medical School were concurred in.

RESOLUTIONS

INTRODUCED BY DR. AUSTIN

Whereas, The newspapers and radio stations of Alabama have cooperated wholeheartedly with the State Department of Health and the other public health agencies in the dissemination of information regarding the prevention of illness and the measures which need to be taken by the individual and by society to raise the health levels of the state; and

Whereas, As a result of that generous cooperation, there are numerous manifestations of an increasing public knowledge regarding health matters and a growing interest in health as a personal and community problem; therefore be it

Resolved, By the Medical Association of the State of Alabama that the thanks of itself as an organization and its members be expressed to the newspapers and radio stations for this cooperation; and be it further Resolved, That the Secretary of the Medical Association

of the State of Alabama be instructed to enter this resolution upon the minutes of the Association and also to send a copy to every radio station and every daily and weekly newspaper in the state.

Recognizing the valuable services rendered by the press and radio in transmitting correct information to the public, the Board concurs in the expressions of appreciation embodied in this resolution and recommends its adoption by the Association.

The resolution was adopted.

INTRODUCED BY DR. PARTLOW

INTRODUCED BY DR. PARTLOW

Whereas, Great progress has been made within the past year in the program of the State Health Department in its plan of dealing with the very important question of cancer control, prevention and cure, and
Whereas, This progress has been made possible largely through the very effective services of the standing Committee on Cancer Control lead by its efficient chairman, Dr. J. P. Chapman of Selma, supported by his associates Dr. Harry Simpson of Florence and Dr. Karl Kesmodel of Birmingham; therefore be it
Resolved, That this Association especially recognize the outstanding services of Dr. Chapman and his committee in this connection and make full and permanent record of its outstanding contribution that will result in the conservation of health and the saving of lives of many peo-

of its dustaining contribution that will result in the conservation of health and the saving of lives of many people through the clinics and through the cooperation of the Women's Field Army in the educational program it is conducting in cooperation with our committee and the State Health Department.

The Board concurs in the views, regarding the accomplishments of the Association's Committee on the Control of Cancer, and recommends the adoption of the resolution.

The Association concurred in the recommendation.

INTRODUCED BY DR. FRANK CHENAULT

Whereas, The Medical Association of the State of Alabama is the State Board of Health, given the power and charged with the duty of licensing and regulating the practice of medicine in this state, all in the interest of public health and public welfare, and

Whereas, Certain individuals, without the qualifications, and in violation of the letter and spirit of the law, are intruding into the practice of medicine, against the peace and dignity of the State of Alabama, jeopardizing the public health as well as that of individuals, and Whereas, The members of our State Board of Health and of its several County Boards of Health are not fully apprised and familiar with the technique and procedure in cases where it is necessary to invoke law enforcement in the interest of public health; therefore be it Resolved. That our State Board of Censors be requested and instructed to make a detailed study of all laws, rules and regulations in any way relating to the control or prevention of illegal practice of medicine in this state, and make report thereon to this Association, employing in their study such legal advice as may be necessary; and be it further

e it further Resolved, That such report state clearly the best method, or methods, of procedure and whose duty and responsibility it is to initiate and carry on all necessary action to enforce the laws in public interest; and be it further

Resolved. That in this study it be particularly determined if it is not now, or by changes in our rules, may not be made to be the duty of our State Board of Censors, to discharge this duty, thus relieving local boards and

to discharge this duty, thus relieving local boards and local doctors of unpleasantness in counties where these conditions exist; and be it further

Resolved, That in their investigation they approach the State Bar Association through its proper officers, and bring to their attention the fact that, in defending those known to be guilty, they are lending themselves to the lowering of professional and ethical standards of ours, a sister profession, all to the detriment of public health in Alahams. Alabama.

The State Board of Censors concurs in the resolution proposed by Dr. Frank Chenault.

The Association likewise concurred in the resolution.

PROPOSED BY DR. SEARCY

Whereas, Dr. W. D. Partlow has been a member of this Associtaion since 1901 and cannot recall having ever missed an annual meeting until this one, and Whereas, He has served in all the offices of the Association, sacrificing time and effort working for the organiation and

tion, and

whereas, it was through his efforts more than anyone else that we have procured a four-year medical school in Alabama, which efforts should be appropriately recognized, with every physician in the state having an opportunity to participate in such recognition; therefore be it Resolved, That this Association have a plaque made, with the names of the Committee on the Four-Year Medical School inscribed upon it, to be placed in a conspicuous place in the new medical school building when completed; and be it further

Resolved, That a committee be appointed by the incoming president, whose chairman shall live in Tuscaloosa, whose duty and privilege it will be to solicit voluntary contributions from the entire membership of the Association to be used in engaging the services of an out-Association to be used in engaging the services of an outstanding artist to make a painting of Dr. W. D. Partlow to be hung in an appropriate place in the four-year medical school building when it is completed.

INTRODUCED BY DR. SEALE HARRIS

INTRODUCED BY DR. SEALE HARRIS

Whereas, For the past ten years one of the major objectives of the Medical Association of the State of Alabama has been the establishment of a four-year medical school as a department of the University of Alabama, and Whereas, The Committee on the Four-Year Medical School, of which Dr. W. D. Partlow is chairman, labored year in and year out to accomplish that purpose until the Governor of Alabama and the State Legislature provided the money to establish and maintain a first-class medical college in Alabama, and Whereas, The Medical College of Alabama, the Medical Department of the University of Alabama, which educated in medicine a large proportion of the physicians of Alabama for more than half a century, will be re-established; therefore be it

Resolved, That the Medical Association of the State of Alabama in convention assembled in Montgomery, April

Resolved, That the Medical Association of the State of Alabama in convention assembled in Montgomery, April 20, 1944, express appreciation to the Committee on the Four-Year Medical School, particularly to Chairman W. D. Partlow, for its years of faithful service in a just cause; and be it further

Resolved, That, as a token of gratitude to Dr. W. D. Partlow, "the Father of the new Four-Year Medical School," the Medical Association of the State of Alabama address one of its objectives for the year 1944 and 1945.

adopt, as one of its objectives for the year 1944 and 1945, the raising of funds to employ one of the best artists of the nation to paint a portrait of our beloved Dr. W. D. Partlow to be placed in the library of the Medical College of Alabama when it is re-established; and be it further

Resolved, That, as an expression of appreciation to Governor Chauncey Sparks for his wisdom and statesmanship in sponsoring legislation to provide funds to reestablish the Medical College of Alabama, the Medical Association of the State of Alabama will undertake the task of raising funds for a portrait of our great Governor to be placed in the library of the Medical College of Alabama, when it is re-established; and be it further Resolved, That a committee of five be appointed, the chairman of which shall reside in Tuscaloosa, to carry out the wishes of the Medical Association of the State of Alabama to collect funds for, select the artist, and arrange for the presentation of the portraits of Dr. W. D Partlow and Governor Chauncey Sparks to the Medical College of Alabama, the Medical Department of the University of Alabama, at a propitious occasion.

The Board concurs in the provisions made in the resolutions of Dr. Searcy and Dr. Harris and recommends the appointment of a committee to have a plaque prepared with the names of the Committee on the Four-Year Medical School and placed in a conspicuous place in the new medical school building, and to solicit funds and secure paintings of Dr. W. D. Partlow and Governor Chauncey Sparks to be hung in appropriate places in the Four-Year Medical School.

The Board's recommendations on these resolutions received the unanimous endorsement of the Association.

Place of Meeting in 1944

The following communication addressed to the Board by the Secretary of the Association is self explanatory:

"It will be recalled that a year ago I directed a memorandum to you regarding place of the current year's meeting, which would have been held in Mobile in normal times. It was decided by the Association, on your recommendation, that the meeting be in Montgomery. Since conditions next year are likely to be as they are now, it is my opinion that the 1945 meeting should be held in Birmingham."

The Board recommends that the 1945 meeting of this Association be held in Birmingham.

The recommendation of the Board was adopted.

Dr. Alf. Walker invited the Association to hold its 1945 meeting in Birmingham, and the invitation was accepted.

Part I of the Board's report was adopted as a

PART II

REPORT OF THE BOARD OF CENSORS AS A **BOARD OF MEDICAL EXAMINERS**

Certificates of qualification issued physicians 70 Certificates of qualification issued chiropodists 29 (a) Number of physicians passing examination June 15-17, 1943 1. Certificates issued 2. Certificates to be issued after intern-(b) Certificates issued after completion of internships July 1, 1943 (c) Number of physicians passing examination February 22-24, 1944 12 1. Certificates issued 2. Certificates to be issued after intern-8 (d) Physicians granted reciprocity 28 (e) Diplomates of National Board of Medical Examiners licensed (f) Certificate of qualification revoked (g) Physicians denied narcotic privilege. (h) Chiropodists passing examination June 15, 1943 (i) Chiropodists passing examination December 19, 1943 ... (j) Chiropodists passing examination February 22, 1944

(k) Chiropody renewal certificate issued CERTIFICATES ISSUED TO JUNE 1943 EXAMINATION APPLICANTS

Altman, Harry Earle Oliver, Robert Kossuth Hunter, William Strobel Stough, Warren Vesta

CERTIFICATES TO BE ISSUED AFTER SATISFAC-TORY INTERNSHIPS

Blue, Denzil Rushing Brown, Clyde Wilson Childs, Edward A. Crabtree, James C., Jr. Hardwick, James L. De Lorme, T. L., Jr.

de Wilton, Edward L. Dunning, Everette J. Greenlees, David L. King, Hiram Gordon

Odom, Corley W. Smith, William Lamar Stanton, Allie McLeod

Thomas, B. F., Jr. Thompson, William D. Ward, James Keene

CERTIFICATES ISSUED APPLICANTS COMPLETING INTERNSHIPS JULY 1, 1943

Barnes, Everett B., Jr. Jordan, James L., Jr. Batson, Walter Polk Burttram, Hobson Dyar Matthews, Clifford N. Cameron, John Minge Clemmons, Lowell H. Cumbie, William Gary Dozier, Slater Mathew Gafford, August V. Gilchrist, Philip P. Hardy, James Daniel Hardy, Julian P. Harris, W. M., Jr. Hodnette, Frank B. Jackson, Nial Elting

Magruder, T. V., Jr. Broadhead, H. De Vann Mason, Robert Eugene May, Sydney Brooks Moore, Edward Eugene Nicholson, W. H., Jr. Reynolds, W. S., Jr. Richey, Carl B., Jr. Roberts, William Byron Rodgers, Samuel U. Sherman, Charles R. Snoddy, William T., Jr. Tucker. William Cox Waters, H. W., Jr.

CERTIFICATES ISSUED FEBRUARY 1944 EXAMINA-TION APPLICANTS

Gamble, Harold S. Horne, Cecil Pelham

MacCallum, Oldrick D. Morgan, P. A., Jr.

CERTIFICATES TO BE ISSUED AFTER SATISFAC-TORY INTERNSHIPS

Corbitt, Jack Griffin, Belton Glenn Hicks, James Johnston Nix, Oscar Gorden

Marshall, Andrew S. Meadows, J. A., Jr. Humphries, Joseph M. Tatum, Albert F., Jr.

RECIPROCITY APPLICANTS RECEIVED APRIL 1943-APRIL 1944

Blake, Thomas M.—Tenn. Brown, Leland L.—Tenn. Burleson, Paul W.—N. B. M. E. Chapman, Frank E.—La. Costello, Martin J.—Pa. Dahlgren, Leora P.—W. Va. Deane, Helen M.—Minn. Dwiggins, Horace G.—N. B. M. E. Elliott, Hiram R., Jr.—Miss. Flowers, Paul R.—Ga. Fortune, James L.—Ind. Goley, Donald Earl—Pa. Gross, Robert M.—Tenn. Houston, Hubert S.—Ill. Lange, Charles E. F.—Texas Liebeskind, Milton M.—Tenn. Lyon, William D.—Mich. Meissner, Tom O. W.—N. B. M. E. Meissner, Tom O. W.—N. B. M. E. Nov. Meneray, Wilbur—La. Pringle, Duncan D. McC.—S. C. Cot. Rose, John W.—Texas Russell, Glen A.—La. Schrader, Merlin A.—Iowa Shell, James R.—Tenn. Oct.	5, '43 23, '43 25, '44 27, '43 26, '43 27, '43 2, '43 13, '43 9, '43 5, '43 19, '43 1, '43 4, '44 12, '43 16, '43 5, '43 8, '43 28, '44 25, '44 5, '43
Schrader, Merlin A.—Iowa Oct.	8, '43
Shell, James R.—Tenn. Oct.	5, '43
Shipp, Larry G.—La. March	
Smith, James E.—Miss. Feb.	
Swan, Lionel F.—N. C. July	28, '43
Swords, Merrick W.—La. June Williams, Henry W.—N. Y. March	1, '43
Williams, Henry W.—N. Y. March	3, '44
Williams, William J.—N. B. M. E. Sept.	20, '43

CHIROPODY

The Alabama Association of Chiropodists has been prosecuting two illegal chiropodists in Mobile for the past two years, which finally reached the Supreme Court in early 1943. Growing out of this Court's decision was an opinion that the State Board of Medical Examiners had no legal right to promulgate a rule exempting chiropodists already practicing in the State one year prior to the enactment of the law placing the licensing of chiropodists under this Board. This naturally voided the licenses issued under such rule.

The Chiropody Advisers to the Board and the'r legal representative suggested amended rules and regulations governing the practice of chiropody in Alabama. These were submitted to the Attorney General's office, brought into proper legal terms and adopted by the Board November 29, 1943. It immediately became necessary that the Board give written examinations to the chiropodists formerly licensed under the exemption rule of the Board, and these were set for their convenience for December 19, 1944.

CERTIFICATE ISSUED JUNE 1943 EXAMINATION APPLICANT

Silverman, Isidor

CERTIFICATES ISSUED DECEMBER 1943 EXAMINA-TION APPLICANTS

AuCoin, William John Draper, William Loyt Bauer, Marie Hermes Benitez, George W. Carlisle, A. R. Clark, George Elwood Cooper, John Marvin Crowley, Gentry B. Daniels, John Edgar

Edwards, Charles M. Pearson, Joe Price Riccio, Peter Domenick Rollings, Harry H. Sealy, Ariel Lewis Sealy, Elizabeth P.

CERTIFICATES ISSUED FEBRUARY 1944 EXAMINA-TION APPLICANTS

Blotzer, Ellen Louise Blotzer, John Sheldon Carter, Harry Shipley Crowley, Coy Hiram Davis, Edith M. Leighty, Fred G. Miller, John

Oxford, H. R. A. Peterson Bessie C. Plevine, Erich Herman Plevine, Viola De Viso White, Juddie Benjamin Wright, Thomas Leolin

Part II of the Board's report was adopted.

PART III

REPORT OF THE BOARD OF CENSORS AS A STATE COMMITTEE OF PUBLIC HEALTH

B. F. Austin, M. D. State Health Officer

ADMINISTRATION

PREFACE

The State Department of Health, like all the other departments and agencies of Alabama, has been functioning for many months on a war emergency basis. One hundred seventeen out of a total of seven hundred ninety-five employees of the State and County Health Departments have gone on active duty with the armed forces. This represents fourteen and seven-tenths per cent of the public health personnel in Alabama. The majority of these persons were experienced professional employees whose services have been most difficult to replace. However, replacements have been secured for some of the positions but those who remain on duty have been compelled to exert more effort to keep the public health program functioning, as well as it has been during the year for which this report is made.

A great number of substantial accomplishments have been made in public health during the year in spite of the difficulties and problems that have arisen because of the war. These are reported in as brief form as possible on subsequent

pages.

The State Legislature, which met in 1943, revised the public health laws and increased appropriations for the promotion of special features of the health program. This gave an opportunity for the extension of services effective October 1, 1943. The beneficial effects of this legislation were most noticeable in the Bureau of Vital Statistics where certified copies of birth certificates are issued, and the Bureau of Preventable Diseases where cooperation is given in the diagnosis and treatment of cancer, syphilis and tuberculosis.

Profound gratitude is expressed here to all who have had a part in making the progress we have experienced in public health during the year. Paid employees have worked unceasingly and relentlessly in the effort to render the greatest possible number of services; the Governor, department directors and members of the Legislature have cooperated wholeheartedly, which has given substantial assistance in promoting the health program. Physicians and members of allied professions have contributed abundantly to the health services in the state. The cooperation of the public has been excellent and appropriations made by city, county and state appropriating bodies have been of material aid in keeping the health activities functioning. State Health Officer is deeply grateful for all of these contributions to Alabama's health program.

PUBLIC HEALTH EDUCATION

During 1943, as in previous years, the division carried on its work of keeping the people of Alabama as well informed as possible in matters having to do with individual and community health. The division's chief allies were the daily and weekly newspapers, the radio and the motion picture.

During the year the director prepared and issued 610 daily releases, which were made available not only to the two Montgomery daily papers but also to the United Press and Associated Press, which serve practically every daily paper in the state. A special weekly release was also prepared for weekly papers. Behind each release was a desire to make available to the mass of the population, not capable of being reached in any other way, the benefits of the latest advances in the field of health preservation and lifesaving and to develop an alert health-consciousness and health-alertness among the members of every class of the state's population. The weekly feature article State Health Chats, was also pre-

pared and made available through the Associated Press to its member newspapers in all parts of the state.

Notwithstanding the heavy demands made upon newspaper space by war news and the reduction in newsprint supplies resulting from war conditions and the manpower shortage, the material prepared and issued by this division continued to be widely printed. The division's scrapbook of clippings from the two Montgomery dailies contains 611 clippings published during the year. No attempt is made to clip from out-

of-town papers.

Through the continuing kindness and courtesy of Radio Station WSFA (Montgomery), weekly radio talks in the "Health is Wealth" series were broadcast throughout the year, except for a brief period just before Christmas, when, because of greatly increased use of radio advertising by commercial firms to boost Christmas sales, the station temporarily suspended many of its non-commercial programs. These radio talks covered a wide range of subjects in the broad field of health. An effort was made to deal from week to week with diseases and health problems of particular interest at the time of delivery.

A number of these radio talks, which are made available in mimeographed form to interested persons, have since been printed in full in several newspapers and magazines, and permission was requested, and granted, for their use in health education work in the Hawaiian Islands.

Several articles originating in this division including three book reviews were published during the year in the Journal of the Medical Association of the State of Alabama, while a number of other articles and reports were prepared for other publications, the State Health Officer and other state officials, governmental agencies, etc. Information regarding individual and public health and the work of the state's public health agencies was furnished inquirers by correspondence. The work of health education through the printed word was also carried forward by means of health booklets written by the director and bearing the imprint of the State Health Department. These have been made available for public distribution both directly and through the county health departments.

The editing of the State Health Department's annual report has been, for a number of years, one of the responsibilities of this division.

Near the end of the year this division began issuing a mimeographed bulletin covering the activities of members of the staffs of the State Department of Health and county health departments. Known as "The Public Health News Bulletin," it is sent without charge to public health workers in every county of the state and to many other states. It is issued every two weeks.

The director was invited to discuss the problems and opportunities of public health education at a health education conference held at State Teacher's College in June 1943.

The extreme shortage of projection machines has prevented a marked expansion of the Film Library, one of the units of the Division of Public Health Education. However, the Montgomery,

Tuscaloosa and Jackson County Health Departments joined during the year, increasing the total membership to forty-two. Film bookings during

the year totaled 701.

The division continued to enjoy the fullest cooperation and assistance of the other bureaus and divisions of the State Department of Health and of the county health departments, which added materially in its efforts to discharge as effectively as possible its obligation to the State Department of Health and to the public.

MACHINE TABULATION

The position occupied in the State Health Department by this division is primarily one of a service division. This is due to the fact that its job is to process and analyze material for various bureaus and divisions of the department.

Jobs Done for the Bureau of Preventable Diseases: The weekly reports of communicable diseases are transcribed to punch cards. From these the morbidity tables for the bureau's annual re-

port were prepared.

The result of the Blood Test Survey was transcribed to punch cards. Alphabetic lists of infected cases were prepared by areas of the county in order to assist field workers in locating and bringing the cases to treatment. An index of all bloods taken was prepared for use in the county health department. Statistics on infected cases by age groups, sex and color were prepared. Follow-up work was organized to assist private physicians in their reporting of treatments given venereal disease patients.

Monthly venereal disease clinic reports were prepared showing the activity and population of each clinic together with an all-state report. For the purpose of measuring the efficiency of the clinics a semi-annual breakdown was made of each clinic population to show the length of time the patient was in the clinic compared with the amount of treatment he had received. A monthly morbidity report was prepared for the U. S. Public Health Service. Various other reports were prepared for the purpose of assisting the clinics and measuring their efficiency.

Jobs Done for the Bureau of Vital Statistics: Requests containing money for certified copies of birth and death certificates were transcribed to punch cards and alphabetized in order to assist the registration division in locating the re-

quests.

Information contained on birth, death, marriage, divorce and stillbirth certificates was transcribed to punch cards and indexed. Also the 1937, 1938 and 1939 birth files and miscellaneous birth files were indexed.

Assistance was given in the preparation of this bureau's statistical tables for its annual report

and monthly provisional bulletins.

Preparation was made, cards designed, and forms purchased for establishing a cross index of the current birth certificates. This should increase the efficiency of the registration division in locating birth certificates.

Jobs Done for the Bureau of Maternal and Child Health: Cards received from this bureau reporting findings of its dental survey were transcribed to punch cards. Statistical tables were run on these, showing the finding of these examinations classified by school, age and sex of the pupil. Reports were also run on a county and state level.

An accounting procedure for the accounting of the appropriation, incumbrance, and disbursements of the Emergency Maternal and Infant Care Fund was set up and put into operation. Fund control figures were furnished this bureau semi-weekly. There was also a monthly statistical report prepared for the Children's Bureau.

Jobs Done for the Bureau of County Health Work: The monthly reports of each county health department were transcribed to punch cards. From these the quarterly and annual reports to the U. S. Public Health Service were prepared.

Jobs Done for the Bureau of Laboratories: The results of various types of laboratory tests were transcribed to punch cards and a table was prepared for the purpose of comparing the results obtained from the different types of tests.

Jobs Done for the Finance Division: The preparation of the monthly payroll for the sixty-seven county health departments was transferred to this division in October 1943. Both the payroll registers and the checks were prepared in this office. Also, a record of the withholding tax deducted from each employee's pay was kept here.

Because of the load carried by this division it became necessary for it to operate on a two-shift basis for the last six months of the year. Approval was received in October from the War Production Board to order additional equipment. This was ordered but had not been delivered by the end of the year.

FINANCE

The following is a statement of monies disbursed by the department during the past year:

		Per
	Amount	Capita*
State S	533,500.31	\$.188
Social Security, Title VI	350,867.74	.125
Social Security, Venereal		
Disease	439,613.10	.152
Social Security, Children's		
Bureau	215,044.82	.076
Social Security, EMIC		
Program	1,670.00	.001
Federal Funds, Lanham		
Act	1,741.94	.001
Vital Statistics Fees	8,085.93	.004
Local Funds	800,218.36	.282
Other Funds	37,852.64	.014
Total Expenditures	2,388,594.84	.843

BUREAU OF COUNTY HEALTH WORK

War has continued to make inroads on personnel of county health departments more especially in the fields of nursing and sanitation since there are but few health officers left of draft age and most of these are physically disqualified.

^{*}Based on 1940 census

Autauga, Chilton, Clay and Randolph are without health officers; and Lamar, Lauderdale, Marengo and Monroe are being served by acting health officers. To the busy practitioners who are providing supervision in these four counties great indebtedness is expressed. Whatever the future there should be gratification in the realization that no county health department has had to cease operations because of the exigencies of the manpower situation.

Combinations of counties in units of two continue to function under one health officer with a fair degree of efficiency. These are as follows:

Baldwin and Escambia
Bibb and Perry
Butler and Lowndes
Calhoun and Etowah
Chambers and Lee
Choctaw and Washington
Coffee and Geneva
Coosa and Elmore
DeKalb and Jackson
Fayette and Pickens
Greene and Sumter
Lawrence and Morgan

Two notable steps have been taken in county health service since the last report was rendered: (1) A system of personnel administration on a merit basis has been adopted. This is discussed in the report of the Merit System Unit. (2) Practically all monies for financing the several departments over the state are now being disbursed through the State Treasury, and major purchases are routed through the State Department of Purchases and Supplies in order that best prices may be procured. These perfections in good administration have received the general support of the county health officers to whom credit is due for the now apparently smooth functioning of the two systems.

The report of the bureau's Division of Public Health Nursing appears on succeeding pages as does the bureau's statistical report of activities and accomplishments.

PUBLIC HEALTH NURSING

Nursing personnel supplied by the State Department of Health consists of the director of the division and three field supervisors, four nurses assigned to the Division of Tuberculosis Control, one to the Division of Venereal Disease Control, a director for the Midwifery School in Tuskegee, and a Negro nurse assigned to the Extension Service of the U. S. Department of Agriculture, Tuskegee.

Field service from the division continued its usual appraisals of nursing service, staff education and promotion of nursing service. Three special studies were completed:

- 1. Study of attendant at delivery with special analysis of midwifery service,
- 2. Cullman County Maternity Demonstration, and
- 3. Macon County Maternity Demonstration and Midwifery School.

Maternal and child health educational material was provided county nurses and made available to all nursing schools in the state in the form of a printed booklet, "Guide for Teaching Maternal and Child Health." The Manual of Policies and Procedures for Public Health Nurses, in a revised printed form, was supplied all county nurses as well as nurses engaged in industry in the state.

The maternal and child health consultant nurse taught a class for expectant mothers sponsored by the Montgomery USO for Women. Most of these women were in their first pregnancy and were from practically every state in the union. Sixty certificates have been issued to women who attended as many as eight lectures.

County Public Health Nursing Service: County nurses participate in practically all of the activities of a county health department, therefore their work is reflected in the reports of activities and accomplishments of the various bureaus and divisions of the State Department of Health.

On December 31, 1943 county health departments employed a total of 215 nurses. This is twelve fewer nurses than were employed a year ago. This does not appear to be a great reduction but further study reveals a loss of twenty-six nurses in already poorly supplied rural areas and a gain of fourteen nurses in urban areas. Twenty three or about one-third of the counties in Alabama have only one nurse. During the year forty five nurses resigned from rural health work. This represents about a one-third turnover.

Staff education consists of one month's introduction which is given in Cullman, and the educational material and study leadership are supplied by the state supervisory nurses on their visits to the counties. A series of district conferences of two days' duration was held in January 1943 at Birmingham, Decatur, Mobile and Montgomery. A nutrition conference was held at the University of Alabama for public health nurses September 14-16, 1943. Forty five public health nurses attended.

Our problem this year will be to keep the departments staffed. As a means toward this end we are planning to provide public health nursing experience for senior cadets in the hope that some of the nurses who select this experience will wish to remain in public health.

BUREAU OF LABORATORIES

DIAGNOSTIC DIVISION

During 1943, for the first time in some five years, this bureau examined fewer specimens than it did the previous year. Table I presents the comparative figures for 1942 and 1943. From this tabulation it is obvious that the number of specimens decreased in the majority of categories, with the greatest loss in tests for syphilis, and there was a significant increase only in the examinations for gonorrhea, and of milk and dairy products.

Table I

A Comparison of the Number of Specimens of the Different Types Examined During 1942 and 1943

Wind of Enginetics	1942	1942	Gain or Loss
Kind of Examination	1942	1942	LOSS
Diphtheria	8,200	5,755	- 2,445
Vincent's infection	2,932	2,726	206
Pneumococcus typing	114	56	58
Enteric organisms	. 10,135	7,652	 2,483
Agglutination tests	8,903	7,406	-1,497
Malaria	16,943	12,948	-3,995
Intestinal parasites	26,140	21,369	-4,771
Tests for syphilis	569,898	542,555	-27,343
Gonorrhea	27,729	33,529	+5,800
Tuberculosis	21,829	19,028	2,801
Rabies	678	519	— 159
Water	11,046	11,356	+ 310
Milk and dairy			
products	24,027	25,124	+ 1,097
Meningococcus	44	87	+ 43
Miscellaneous	6,663	3,562	3,101
Totals	735,281	693,672	—41,609

It is of particular interest to note that of the total number of specimens examined for serologic evidence of syphilis—576,084—there were 191,182 from selectees for military service. This represents an increase of 65,024 specimens from this source over 1942.

A comparison of darkfield examinations by laboratories for 1942 and 1943 is shown in Table II. From these figures it is evident that 76 fewer specimens of this kind were examined this year as compared to 1942, so that the annual loss which has occurred since 1940 is further extended.

Table II

A Comparison of Darkfield Examinations by Laboratories 1942 and 1943

		G	ain or
Laboratory	1942	1943	Loss
Montgomery	203	143	 60
Birmingham	150	139	— 11
Mobile	27	14	— 13
Decatur	19	29	+ 10
Tuscaloosa	17	15	_ 2
Anniston	28	0	— 28
Selma	64	97	+ 33
Dothan	0	6	+ 6
Huntsville	23	12	— 11
Totals	531	455	— 76

This year, as for some years past, an effort was again made to confirm the cases of suspected Brucellosis showing agglutinin titres of 1:80, or above. The number of cultures attempted, the number from which isolations were obtained, and the species distribution of the cultures is shown in Table III.

Table III

Results of Cultures for Brucella

No. of				
Cultures	Positive	Negative	Br. suis	Br. abortus
194	21	173	11	10

A summary of five years' work on attempted Brucella isolation is given in Table IV, and from this evidence it appears clear that human infection with Brucella in Alabama as determined to date is preponderantly with the porcine species of organism.

Table IV

Five Year Summary of Cultures Made for Brucella

Year	Cultures made	Positive	Br. suis	Br. abortus	Un- typed
1939	125	10	9	0	1
1940	176	23	16	7	
1941	145	15	14	1	
1942	157	22	19	3	
1943	. 194	21	11	10	
Total	s797	91	69	21	1

In 1943 the decline in demand for pneumococcus typing continued. In fact it reached such a low point that there was a strong probability of the procedure being abandoned. The distribution of types identified during the year is shown in Table V, and a summary of the work covering a six-year period is given in Tables VI and VII.

Table V
Pneumococcus Typing

Types	1942	1943
I	7	3
III	3	4
V	3	
VI	2	1
VII	7	3
VIII	3	
X	2	
XII		1
XVII	1	
XIX		1
XXII		1
	1	
XXVII	· · · · · · · · · · · · · · · · · · ·	1
XXIX	2	_
Unable to t	ype	2
Mixed	1	1
	32	18

1942 Positive		1943. Positive	
Negative	7 9	Negative	34
Unsat.	3	Unsat.	4
_		-	
	114		56

Table VI

Six-Year Summary of Pneumococcus Type Distribution

		ı	ribut	1101			
Types	1938	1939	1940	1941	1942	1943	Total
Ι	46	124	38	21	7	3	239
II	. 9	8	9	4			30
III	. 23	37	44	16	3	4	127
IV	- 5	12	6	8			31
V	17	26	22	14	3		82
VI	4	9	4	7	2	1	27
VII _	_ 24	57	21	14	7	3	126
VIII	24	23	12	7	3		69
IX	2	10	5	1			18
Χ	2	4	8	2	2		18
XI	_ 3	2	5	2			12
XII	5	5	8	1		1	20
XIII	1	5		1			7
XIV		12	5	4			21
XV	_ 2	2	3	2			9
XVI .	3	1		4			8
XVII	1	5	2	2	1		11
XVIII	2		4	2			8
XIX	1	6	9	7			24
XX	1	5	5	2			13
XXI	. 1	1	2				4
XXII		3	1	2		1	7
XXIII		1	4	3	1		9
XXIV	3	2	6	1			12
XXV		1	1	1			3
XXVII				1		1	2
XXVIII		5		3			8
XXIX _	_ 2	2	1	1	2		8
XXXI	1	1	1	2			5
XXXII		1	3	2			6
XXXIII				1		2	3
Unable to							
Type		14	1	2		2	19
Mixed		8	7	6	1	1	23
			_			—	
Totals	184	395	234	146	32	18	1009

Table VII

Six-Year Summary Table of Pneumococcus
Typing

Spe	cimens	;			_				
-		1938	1939	1940	1941	1942	1943	Totals	Š
Tot	al	331	794	564	373	114	56	2232	
Pos	itive	184	395	234	146	32	18	1009	
Ne	gative	138	363	307	211	79	34	1132	
Doi	ıbtful	0	3	0	0	0	0	3	
Un:	satisfac	-							
to	ory	9	33	23	16	3	4	88	

BIOLOGIC DIVISION

During the year the following products were prepared in this division and distributed from the Bureau of Laboratories:

Table VII

Biologic Products Prepared and Distributed Rabies vaccine (Semple) 881 treatments 120,690 ml. Diphtheria toxoid (alum) Diphtheria toxoid (plain)..... 150 ml. Typhoid vaccine 401,920 ml. Schick test toxin 2,001 ml. Sterile normal saline 55.380 ml. Mercury benzoate solution 1,495 ml. Sterile distilled water 7,595,350 ml. 70,014 ampules Silver nitrate solution _____ Argyrol sets 97

In addition to the above the division also filled, packaged and distributed 322 ml. of tuberculin purchased from a commercial laboratory. Fifty one gallons of distilled water were furnished to the Department of Penal Institutions during the year.

In comparison with 1942 the noteworthy features of 1943 were the decreased demand for rabies treatments, plain diphtheria toxoid, typhoid vaccine, sterile normal saline and mercury bonzoate solution. On the other hand there was an increased demand for silver nitrate and sterile distilled water for use in the venereal disease program.

SPECIAL ACTIVITIES AND COMMENTS

Syphilis: 1. Serologic Evaluation Study. As for the last several years this laboratory again participated in the annual evaluation study of serodiagnostic tests for syphilis conducted by the U. S. Public Health Service. The conduct of the study this year was along the same lines as heretofore; that is, several hundred blood specimens were submitted by the Service to each participating laboratory for examination by the technic followed in its routine diagnostic work. In this laboratory this is the Kahn Standard test and our results were seventy and nine-tenths per cent sensitivity and 100 per cent specificity as compared to seventy one and eight-tenths per cent and 100 per cent sensitivity and specificity in Dr. Kahn's own laboratory on the same specimens

- 2. Alabama One-Tube Test Evaluation. Annually, for some years a modified one-tube diagnostic Kahn test employing 0.2 ml. of patient's serum and 0.02 ml. of Kahn Standard antigen has been entered for experimental purpose in the Public Health Service evaluation study. This year the results, based on examination of the same specimens that were submitted for evaluation of our Kahn Standard test, were seventy one and eight-tenths per cent sensitivity and 100 per cent specificity.
- 3. Selective Service Examinations. The examination of these specimens, though considered as part of the routine work of the bureau, merits special note as, during the year, 191,182 bloods were tested for Selective Service.

Gonococcus Culture: During the year a study was made of various methods for culturing the gonococcus. On specimens originating locally the results were good but as yet no satisfactory method for mailing specimens has been worked out and efforts along this line are being continued.

Malaria: Miss Aimee Wilcox, Assistant Technologist of the U. S. Public Health Service, was again detailed to this laboratory to conduct a two weeks' course of instruction in thin and thick film malaria diagnosis. A class of about twenty persons took the course, including some of our own personnel and a number of workers from outside laboratories.

Administration: The continued shortage of technical personnel and the large volume of work again made it impossible to spare any one for advanced academic training. It is certainly to

be hoped that the situation will be so improved that this will not be necessary another year as the bureau is in dire need of workers with more than just undergraduate courses.

The Anniston Branch Laboratory remained closed during the entire year although the local health unit moved into the new building which is also to house the laboratory. At the close of the year it had not yet been possible to get the tables, work benches, fixtures, etc. for the laboratory so the work normally handled by this branch was still being divided between Birmingham and Montgomery.

At one time during the year it seemed that the Dothan Branch Laboratory would also have to be closed. As it was, due to illness among the Dothan personnel and lack of available replacements in the Central Laboratory, most of the work normally done in Dothan had to be transferred to Montgomery. Advantage was taken of the situation, however, to commence the remodelling of the laboratory quarters, a job which badly needed doing and which it was expected would be completed early in 1944.

In the Mobile Branch Laboratory personnel shortage likewise dictated the transfer of more than half of the work to Montgomery and at the close of the year there was no prospect of any immediate easing of the situation.

Finally, in the matter of personnel, the bureau has continued to suffer losses. Mr. L. S. Suter, Assistant Director, and Mr. D. M. Wells, Immunologist, went to the Army while Miss Josephine Baldwin, Junior Bacteriologist, joined the Waves.

BUREAU OF MATERNAL AND CHILD HEALTH

There were many changes in this bureau during 1943, there being nine staff members January 1 and only six December 31. The only obstetric consultant was absent during the last six months of the year. Two of our dentists entered the United States Navy; the oral hygienist resigned and her position remains vacant. We were able to obtain the services of a pediatric consultant July 1, and another nutritionist November 1. A new secretary and a stenographer were employed during the year. For six months the bureau was without an obstetric consultant and a pediatric consultant. For a short period a senior welfare supervisor served jointly this bureau and the Alabama Selective Service System. The plan was not considered practicable and it was abandoned.

MATERNAL HYGIENE

There were 121 clinics operating in fifty counties, which held 4,600 clinic sessions, with 9,419 new patients—1,065 white and 8,354 colored—and 5,495 enrolled before or during the fifth month of pregnancy. There was a total of 36,374 patient visits—3,998 white and 32,376 colored; 775 spacing services—293 white and 482 colored. Eight hundred and seventy-two were treated for syphilis with 10,141 total treatments for the year. There were six new clinics organized in three counties and fifteen discontinued in twelve coun-

ties. In most instances clinics were discontinued because of a lack of attendance due to transportation difficulty and the inability of the physicians to spare time for this service.

Prenatal Care in Maternity Clinics: An analysis of the reports from forty four health departments, representing approximately seventy five per cent of Alabama's population, shows there was a striking reduction in maternal deaths, stillbirths and neonatal deaths (under one month of age) of patients who attended maternity clinics as compared with those who did not. Whites attending clinics were relatively few in number— 884 out of 33,760 total white deliveries, or two and six-tenths per cent. The colored attending clinics—a large proportion of all colored patients delivered-numbered 6,307 out of 20,117, or thirty one per cent. On the basis of percentage, the colored attended clinics twelve to one as compared to white patients.

The maternity mortality rate for the state as a whole (per 10,000 deliveries) was thirty, consisting of twenty one for whites and forty five for colored, which included clinic patients. The rate for those attending clinics was thirty four for whites but less than twenty four for colored, a reduction of almost fifty per cent.

The *stillbirth* rate for the state as a whole was thirty one (per 1,000 deliveries), a rate of twenty three for whites and forty five for colored. The rate for patients attending clinics was twenty for whites and twenty eight for colored, or a reduction of one-eighth for whites and over one-third for colored.

The neonatal mortality rate for the state as a whole was twenty seven (per 1,000 deliveries), consisting of twenty four for whites and thirty one for colored. The rate for clinic patients was twelve for whites and seventeen for colored, or a reduction of one-half for whites and almost one-half for colored, which is really a spectacular achievement

Thus, for the colored, the reduction was one-half for maternal and neonatal mortality and over one-third for stillbirths.

Maternity clinics, like all other organizations these war days, have been operating under specially severe handicaps due to shortage of clinicians and nurses, doctors pressed for time and only a minimum of supervision from maternity and child health headquarters. The above figures demonstrate, as nothing else will, the marked value of prenatal care. After the war, with a complete superivsory, clinician and nursing staff, we can well imagine the further and steady reduction that will be made in maternal and infant mortality.

There has been an overall reduction for the period 1940-1943 of forty nine per cent for maternal mortality, nineteen per cent for stillbirths and twenty six per cent for neonatal deaths.

One illustration: Sumter County, with a large number of colored deliveries and high percentage attendance at clinics, had 621 colored deliveries, of whom about eighty per cent or 493 attended clinics. For the entire county there was a reduction of one hundred per cent for maternal mortality, ninety four per cent for stillbirths and eighty per cent for neonatal mortality.

CHILD HEALTH

Without the services of a pediatric consultant for six months it was impossible to give supervision and consultative service until the last six months of the year. Dependence was placed largely upon county health officers, with help of the advisory nurses to maintain standards and attendance.

There were operating in eighteen counties twenty two child health conferences, which held 548 clinic sessions with 4,116 children attending. Three new conferences were organized and four discontinued in four counties. The pediatric consultant, during the third quarter, visited sixty four counties—a total of seventy four visits, inspected nine hospitals, visited nine maternity clinics, seven child health conferences, two orthopedic conferences, 218 physicians; saw seventy cases with physicians and examined 132 children.

DENTAL HYGIENE

Community interest in the dental program was manifested by financial participation and requests for new clinics. This made the outlook for this division appear bright during the first half of the year. The loss of three of the personnel, as already mentioned, left only one dentist to carry on the program. This retarded many of the activities during the last half of the year.

During the first few months a considerable amount of time was spent by the staff in elementary school inspections, combined with lectures, models, posters, literature and motion pictures. Teachers and nurses received instruction regarding dental care to enable them to do follow-up work and give proper instructions to parents, children and expectant mothers. The educational program was curtailed to some extent because, in several sections, the local dentists requested that this phase of the program be eliminated for the duration as they were unable to care for an increased demand for dental service which followed these inspections and educational stimuli. On this account and because some do not care to treat deciduous teeth, inspections and some of the educational program were discontinued in some of the counties.

To accelerate the war effort a dental program sponsored by the State Department of Health, the State Board of Education and the Alabama Dental Association was designed for the sixteen and seventeen year old boys and girls. This program was instituted by the Governor proclaiming a Dental Health Week. An appropriation was received from the U.S. Public Health Service for the dental program. Timed with the Governor's proclamation, radio talks, motion pictures, news articles and numerous other educational activities were used to encourage this age group to visit their dentists and obtain all necessary dental corrections. Most of the dentists held their appointment books open for that week to aid in promoting this program. It will be the end of the 1943-1944 school session when teachers' reports are returned before the effectiveness of this program can be determined. Several of the counties already having dental clinics established have set up special clinic sessions for

the underprivileged boys and girls who are soon to enter the armed forces or industry. A considerable number of corrections will show on the 1944 report resulting from this phase of the program.

An increase in the number of dental clinics is noted in that thirty two counties had dental clinics in 1943 and twenty two in 1942. These clinics admitted 3,736 children for treatment, and 19,947 treatments were given in the clinics by the local dentists who served as clinicians in most of the counties. Two young dental graduates, waiting for their call to the armed forces, and state employed dentists served in clinics where local personnel was not available.

The objectives of the dental clinics are to increase the demand for dental services by giving ideal treatment to a limited number of children and prenatal patients so that they may serve as an example to others in their community; to render a service to a group that otherwise would not receive any dental care; to provide means for local dentists to render systematically and more profitably a valuable social service to their community; to improve and develop the dentists' interest and technique in pedodontia free from pressure of time and personal affairs; and to show that the dental profession is offering dental care to all groups regardless of their financial status.

At the annual meeting of the Alabama Dental Association a report of the State Health Department's dental activities was presented to the executive council and public health advisory committee with recommendations for the future needs of this division. The report showed a need for future expansion in order to serve a greater number of underprivileged children and to make the division a stronger part of the Department of Health. Resulting from this report, the dental profession had its legislative committee draft a bill asking the State Legislature for a special appropriation for carrying on dental hygiene activities. This bill was withheld because the Governor and the State Health Department had not included it in their anticipated budget and could not give it their full support. This or some similar bill is expected to be introduced at the next meeting of the Legislature.

NUTRITION

Summaries of the more important nutrition activities are as follows:

Consultations were held with local health departments in developing nutritional programs and coordinating them with other county agencies.

Active participation in the local nutrition council is urged since nutrition is an important factor in public health and a very definite part in formulating plans for and carrying out a nutrition program falls upon the local health department.

Individual conferences were held with the nurses discussing specific nutritional problems in their respective counties. In counties with more than one nurse conferences were held with the entire personnel.

Assistance was rendered family nutrition problems by talks and demonstrations to study groups of mothers, parent-teacher associations, individual conferences, home visits with county nurses, and preparation and distribution of leaflets dealing with simple nutritional facts.

Suggestions relative to nutritional teaching and nutritional activities on elementary grade level were made to teachers in some counties. Reliable sources of nutrition teaching materials

were furnished on request.

Food habits of children and the meals served at nursery schools were discussed with teachers at day care centers in Atmore, Brewton, Childersburg, Flomaton and Talladega. Organization and operation of school lunch programs and adequate lunches brought from home were discussed with teachers, cafeteria or lunchroom managers, and parents, and an effort is being made toward improving the selection, preparation, and service of food served at school, also elimination of undesirable non-essential foods being sold in school lunchrooms.

Talks were given at four county teachers' institutes on child nutrition. Adequacy of the meals

served at school was stressed.

A three day Refresher Nutrition Workshop was conducted at the University of Alabama for public health nurses. An opportunity was provided for the nurses to bring their knowledge of nutrition up-to-date and how to translate it into the every day practices of the people with whom they work. Demonstrations on teaching nutrition to groups were conducted at this workshop.

With the addition of a second nutritionist, plans are under way to spend as much time as is needed in a specially selected county or area and assist the local health department and district advisory nurse in formulating and carrying out an

effective nutritional program.

The nutritionists have been requested to attend the Crippled Children's Clinics for dietary interviews with parents referred by the attending physicians. Food for tuberculous patients is being discussed with family groups at the chest clinics over the state,

A cordial relationship is maintained with other state agencies in an effort to bring about a more effective coordinated nutritional program for the state.

SPECIAL PROJECTS

1. Slossfield Maternity Service

This service conducted during the year a total of 1,370 maternity clinics—717 antepartum, 338 postpartum—111 antepartum syphilis and 204 antepartum and dental. There were a total of 5,624 visits—3,428 antepartum. 366 postpartum, 1,493 antepartum syphilis, 337 antepartum to dental clinics and 212 maternal welfare, the last not included in the total visits. There were 1,906 antepartum treatments for syphilis and 454 x-rays for antepartum cases.

Antepartum Syphilis: All antepartum cases with positive serology, with history of previous treatment for syphilis or with clinical evidence of syphilis were placed under treatment. One hundred and eleven, or fifteen and six-tenths per

cent of the 717 cases attending the clinic, were in need of treatment. This percentage is decidedly lower than for previous years. That for 1942 was twenty seven and two-tenths per cent.

There were a total of 6,293 home visits by public health nurses; 388 mothers delivered, with 381 live births and no maternal deaths. Still-birth and neonatal death rates were twenty eight and four-tenths per cent and twenty one and three-tenths per cent respectively (per 1,000 live births).

Sessions: A weekly antepartum clinic is held (1) to determine pregnancy and its state (2) to determine eligibility for service and (3) to arrange for appointment for complete physical examination when the reports of serologic tests will be available. Two weekly antepartum sessions are held, at which time antisyphilis treatments are administered. One postpartum session with child spacing service is held weekly, which is under the direction of the Maternal Welfare Association. A dental clinic was held six days weekly for the last three months of the year. The clinic serves children and antepartum cases.

Hospital Care for Cases of Private Physicians: A change of policy regarding admission of private cases of physicians participating in the Slossfield Maternity Service was effected in January 1943. Physicians wishing this service for private patients were privileged to utilize available beds if willing to conform to the hospital policies. Private maternity patients numbered five during the year, and newborn premature infants numbered two.

The costs of hospital care include medical, nursing, cook and janitor services, laundry equipment, supplies and utilities. Janitor service was supplied through April 3 by the Work Projects Administration. The costs of home delivery include medical and nursing services, supplies, equipment and a minimum of laundry. The estimated cost of each home delivery is \$58.73 and each patient-day in hospital is \$3.82 (newborns being classed as patients).

Macon County Medical and Hospital Care Program

There were sixty-one children hospitalized for 1,139½ days; 114 maternity cases hospitalized for 1,119 days and fifty four deliveries. There were conducted fifty five infant and preschool clinics; 245 infants and 141 preschool children examined; eight major and eleven minor operations; twenty two infant and five preschool deaths; no maternal deaths and eighteen home and hospital stillbirths.

3. Tuskegee Nurse-Midwife School

This school, the ground work for which was laid in August 1939, continued to function throughout the year despite the handicap of insufficient and trained personnel. There were 204 maternity clinics conducted and 374 patients admitted to clinics; 1,264 clinic physical examinations; 149 deliveries by nurses and six by physicians in homes. Seven student nurses satisfactorily completed the course of study offered and were issued certificates.

4. Cullman County Home Delivery Service

This service was instituted six years ago to encourage early registration of expectant mothers and continuous medical supervision and adequate preparation for delivery, and its value has been demonstrated by the reduction of stillbirths, neonatal, infant and maternal death rates. The stillbirth rate decreased seventeen per cent during this period and the other rates decreased more than fifty per cent. During the past year there were 1,285 births—510 hospital and 775 home— 1,152 by physicians, 129 by midwives and four unattended; no maternal deaths; twenty eight stillbirths; and twenty five neonatal deaths. There were seventy eight home deliveries—three primipara and seventy five multipara. Attention is particularly directed to the number of hospital deliveries for the six-year period, both antepartum and postpartum, inasmuch as it is felt that the service definitely stimulated the use of the hospital for the actual delivery as evidenced by the following figures:

HOSPITAL BIRTHS BY YEARS

1938	24	1
1939	32	l
1940	120)
1941		3
1942	253	3
1943	510)

The nursing delivery demonstration service has definitely played a part in obstetric education to improve maternal and infant hygiene. Better service is being rendered our mothers, and our mothers in turn are seeking better service.

BUREAU OF PREVENTABLE DISEASES

EPIDEMIOLOGY

The year 1943 was the second full one of war for the United States and the full impact of unsettled living conditions, increased living tension, increased labor and decrease in certain food supplies should have made their effects apparent. Added to this has been the decrease in the number of physicians in practice with augmented loads on those still available.

Considering all these factors the communicable disease picture in 1943 was not bad. Apparently the continuing decline in tuberculosis deaths came to a stop, but this had been anticipated. There was a marked increase in the incidence of meningitis—another wartime expectancy. The improvement in treatment procedures has materially cut the case-fatality rate of this disease, however, so that there has not been a corresponding increase in the deaths. Typhus fever continued to spread and has become a real problem in certain parts of the state.

On the favorable side of the ledger was another new all-time low in typhoid fever cases, a considerable reduction in the diphtheria cases and a freedom from any epidemic of poliomyelitis. No major epidemic of malaria or influenza occurred. Not included in the state total of diphtheria was an outbreak of approximately fifty cases of this disease among German prisoners in an Army Internment Camp. This outbreak was apparently not traceable to any exposure in Alabama but was the result of infection brought in by the prisoners themselves. It was of interest, however, in demonstrating that adults can have diphtheria and that epidemics can occur if the population is not protected.

CANCER CONTROL

The State Legislature at its meeting in 1943 passed the cancer control bill, delegating to the State Health Department the operation of the program and appropriating money for its initiation. These funds only became available on October 1st so that the program has not had time to become thoroughly established. Cancer clinics where indigent cases could be referred for diagnosis and treatment were planned with the state carrying the cost of hospitalization, use of x-ray or radium and of pathological examinations. Working with the Cancer Committee of the Medical Association of the State of Alabama, rules and regulations governing clinics were established and standards set as regards equipment, etc. These standards are admittedly high but they can be met at several points in Alabama.

Six clinics so far have been set up and approved. All of these have the necessary equipment and are staffed by men who have welcomed the opportunity to care for indigent cases of cancer. The fact of indigency has been established in all cases by the original physician referring the case and by the welfare department concerned. The cooperation of the welfare departments in this work has been a factor in the smooth operation of the program, and the thanks of all are due them.

Figures for the number of cases treated and the results obtained must await the passage of time, but there has been a steadily increasing demand for service and it is already apparent that the need for a program of this type was real and pressing.

The Alabama Division of the Women's Field Army has been carrying on an educational program and has done much to stimulate lay interest in the whole question of cancer. The successful operation of the medical facilities for diagnosis and treatment will complete a well-rounded program.

INDUSTRIAL HYGIENE

During the past year there was another change in directors of the division which naturally interfered to an extent with the program. However, the increased industrial production in the state was reflected in increased demands on the division for surveys, consultations and recommendations. The addition of a chemist to the staff and the completion of most of the laboratory gave added facilities and enabled the division to meet the demands made on it.

The laboratory facilities were enlarged and improved so that qualitative and quantitative determinations of air contaminants and measurements of other toxic materials in the industrial environment could be accomplished. During the period covered by this report 398 samples and

readings were analyzed by the chemical engineer.

Numerous visits to industrial plants were made for the purpose of promoting and carrying out industrial hygiene activities. Some of these visits were carried out by the Division of Industrial Hygiene only, while others were in cooperation with the U. S. Maritime Commission, U. S. Army, U. S. Public Health Service, Alabama State Industrial Relations Board, Tennessee Valley Authority, U. S. Department of Agriculture, and the Jefferson County Health Department. These investigations included studies of establishments engaged in the manufacture of ships, textiles, iron and steel products, cement, chemicals, non-ferrous metals and food.

Lectures were given to the medical students at the University of Alabama regarding industrial hygiene. Consultations were held with representatives of the several federal, state and county organizations named in the preceding section.

The director attended the fifth annual conference of the Council on Industrial Health of the American Medical Association, the Southern Tuberculosis Association, the joint conference of governmental industrial hygienists and American Association of Industrial Physicians and Surgeons and the American Industrial Hygiene Association, the regional conference of the Maritime Commission, and the manpower conference held by the Georgia State Department of Health.

In conjunction with the health authorities of the Tennessee Valley Authority and the Lauderdale and Colbert County Health Departments, a home nursing service was inaugurated for absentees from the TVA industrial area, Wilson Dam Unit. Many public health activities were made possible by this service.

Numerous consultations with industrial physicians and nurses, and with other personnel concerned with plant medical departments, were ac-

complished.

TUBERCULOSIS CONTROL

The Division of Tuberculosis Control experienced its full share of personnel shortage during 1943, and at times the problem became so serious that the division's future existence was seriously endangered. The loss of the services of the senior clinician, serving this division for many years, was a serious blow; and the additional loss of an associate public health officer who was superintendent of the Morgan County Sanatorium, plus the changes in the medical directorship of the Montgomery County Tuberculosis Sanatorium, twice within a short period of time, caused quite a hardship.

Yet, after reviewing the records, it is observed that the division has functioned with increasingly favorable results. As an example, it can be stated that this division interpreted, diagnosed and made recommendations on 30,312 (provisional figure) chest x-ray films. The U. S. Public Health Service, Division of Tuberculosis, working in full cooperation with the State Department of Health, has made 37,000 photo-roentgenograms since August 16, 1943. Reference must be made also to the excellent work done by the State Tu-

berculosis Association in making 4,619 chest x-rays of 4x5 inch size although this miniature x-ray unit has been in operation only a short time. A significant additional number of chest x-ray films resulted from the ever increasing re-raying of rejectees. The main office interpreted all of the re-raying of rejectees—381—with the exception of Jefferson County. Those for Mobile County rejectees were made at a Mobile general hospital and the films were furnished by the State Health Department.

One can easily see that the diagnostic phase of tuberculosis control has tremendously increased, and this was already disproportional to facilities for treatment of active cases. Best possible use has been made, however, of the maximum approximate number of 500 state subsidized beds for treatment of the disease. For example, 914 (provisional) patients were hospitalized. Pneumothorax was given 21,034 times, either in the sanatoria (for in-patients) or at other artificial pneumothorax clinics. The larger percentage of the latter are financed by the state.

In the last analysis, education has and always must be the strongest weapon in the arsenal. The state has been fortunate in having all groups working on this problem to coordinate properly their various specific approaches to the problem and they have worked in complete accord. The role played by the general practitioner can never be replaced in our tuberculosis control program. He is the most important and essential factor in any attempted curtailment of the disease entity, tuberculosis. The efforts of physicians in practice in disseminating proper modern concepts of treatment and control to the lay population are of paramount importance and absolutely necessary before any logical plans can be formulated and carried out to control the disease properly.

The prime factors needed at present in Alabama are the construction of hospitals for adequate bed facilities and trained personnel so that the modern and accepted forms of treatment can be carried out intelligently.

The division is working diligently in formulating plans to care adequately for the obviously increasing incidence of cases of active tuberculosis. The aid of the State Planning Board in this connection is appreciated, as well as that of the board in the Veterans' Administration, Division of Tuberculosis Control, and the valuable services rendered by the U. S. Public Health Service.

VENEREAL DISEASE CONTROL

During the year 1943 there were reported 18,-596 new cases of syphilis and 7,192 new cases of gonorrhea. As compared with 1942 this represents a decrease in the reporting of both syphilis and gonorrhea. Of the reported cases of syphilis 63.4 per cent were early syphilis (less than 4 years in duration). This is a marked improvement over 1942 when the percentage of early syphilis reported for that year was 41.03.

The distribution of free drugs to physicians, clinics and hospitals throughout the state was maintained during the year. Free drugs for the treatment of gonorrhea and the other venereal diseases was continued but the distribution was

limited to clinics. There were 716,017 doses of antisyphilitic drugs distributed, and in addition 759,800 sulfathiazole tablets and 23,600 sulfanilamide tablets were distributed for the treatment of gonorrhea and the other venereal diseases. The supplying of basic equipment to clinics was maintained

On January 1 there were 189 clinics in operation in the 67 counties. By December 31 there were 193 clinics in operation. Several existing clinics had to be discontinued due to a lack of physicians to operate them. In only thirteen counties was there just one clinic in operation. An average of 24,673 patients was treated each month in all the clinics.

Stream-lining of all clinics was begun during the year in an attempt to take care of the venereal disease load with the reduced number of clinicians and health personnel resulting from war. The method of treatment now in use for syphilis in the clinics of the state comes under several heads:

Early Syphilis (less than 4 years in duration):

- (a) Eight weeks rapid treatment (Eagle) is used in the larger urban clinics.
- (b) Sixteen weeks rapid treatment plan is used in the smaller urban clinics.
- (c) Thirty weeks rapid treatment plan is used whenever feasible in rural areas.

Late Syphilis:

Forty weeks of alternating courses of bismuth and neoarsphenamine is given to late latent syphilitics. As much treatment as is needed to arrest the infection is given to all other late syphilitic cases.

In six large urban centers the eight weeks intensive treatment plan for early syphilis was begun.

As a result of the passage of the law requiring persons residing in Alabama between the ages of 14 and 50 to be blood tested for syphilis, the machinery was set up to carry out the law. Blood testing began in Wilcox County November 29, 1943 and lasted for two weeks. Individuals presenting themselves for blood to be drawn numbered 10,183. There were 1,303 or 13.3 per cent found to be positive. Of the white group 37 or 1.99 per cent were positive and of the colored 1,233 or 16.1 per cent were positive. Each positive and unsatisfactory specimen was rechecked and the proven cases of syphilis were referred to private practice or the clinics for treatment.

During the year a concentrated venereal disease education program was carried on in several counties. This included nearly 500 informal talks and lectures, the showing of several venereal disease films about 300 times and the presentation of 62 radio talks and interviews. Considerable newspaper publicity was secured and over 400,000 items of venereal disease literature were distributed. As part of the educational program, a new supply of venereal disease posters was sent to each county once a week for county-wide distribution.

BUREAU OF SANITATION

FOREWORD

The bureau through its engineering, inspection, and typhus control divisions, with its limited personnel, continued its efforts and accomplishments in the field of environmental sanitation.

The key members remaining carried out essential activities, the ground work for which is credited, in part, to personnel who are now commissioned officers serving with the U. S. Armed Forces in various parts of the world.

ENGINEERING

Public Water Supplies: Four hundred and four inspections were made of the 293 public supplies on record to ascertain the condition of the sources of supply and equipment used in water production, and to give aid and instructions to water works operators. In the majority of instances reports were prepared covering each visit, including recommendations for improvements and the reports transmitted to the responsible officials. The value of these inspections cannot be measured monetarily; but the quality of water produced by the public supplies, the excellent condition at a majority of the plants, and the interest shown by the operators reflect the value of personal contact by the engineers.

Each supply was formerly required to send water samples to the state laboratories at quarterly intervals for bacteriologic examinations. The legislature of 1943 amended the law requiring samples at monthly intervals. All plant schedules were changed accordingly and 11,190 reports of analysis were interpreted by the department engineers. Of the total number of finished water samples examined, only 4.5 per cent of tubes containing 10 cc. of the sample were positive for bacteria of the Coli-aerogenes group. A total of approximately 550 letters were written with respect to sampling, including unsatisfactory and delinquent samples.

A major activity in the past was the checking of plans and specifications of water works improvements. This phase of the work has naturally been restricted due to the inability to secure construction materials. However, fifteen sets of plans and specifications were checked and permits issued authorizing construction and plant changes, representing an approximate value of \$109,000.

Aliceville, Atmore Prison, Dothan, Draper Prison, Enterprise, Flomaton, Foley, Margaret and Ragland installed new wells; Blue Creek, Jefferson County, was placed on record after an inspection and transmission of report to owners with recommendations; the filtration plant at Chickasaw was enlarged to 4.0 m.g.d. capacity; Gadsden increased the capacity of its filtration plant to 9 m.g.d.; Gorgas completely rehabilitated its plant and increased its capacity; the mining village of Powhatan installed a water system, including a filtration plant; and complete water supplies were installed at the following reservations: Aliceville, Courtland, Eastaboga, Gadsden and Opelika. The cost of these improvements, not including those on government reservations,

is estimated to be approximately \$163,900. In addition, new plants were under construction at the Bradford mining village, No. 19 Mine village. Mobile, Montgomery, Roanoke, and new wells at Luverne, Marion and Prattville representing an estimated cost of \$1,742,200.

In addition to the major activities, twenty eight supplies were reported to the U. S. Public Health Service for certification for use by interstate carriers. By an agreement with the U. S. Public Health Service, coach yards and other watering points are inspected each year with respect to the sanitary condition. Forty inspections were made of watering-point sanitation and reports submitted to the U. S. Public Health Service for action.

Considerable time was spent in consultation with officials of governmental agencies concerning water supply construction and practices, with particular reference to water supplies serving military areas. Engineers cooperated very closely with federal agencies responsible for security measures. Many conferences were held, field inspections made, and confidential reports prepared.

Malaria: The principal function of the malaria control section during the period covered by this report was the direction and supervision of the malaria control program in areas contiguous to military and essential industrial establishments. Under this program, a joint undertaking by the Alabama State Department of Health and the U. S. Public Health Service, malaria control measures were applied in eight war areas while five were under surveillance. The accomplishments of the program are given below:

1. Approximately 445 acres of mosquito-breeding waters were eliminated by filling 127,000 square feet of ponds and constructing 109,875 linear feet of drainage ditches. This combination of methods involved the movement of 59,566 cubic yards of earth.

2. Maintenance work was performed on 273,-549 linear feet of existing drainage ditches.

3. 4,344 gallons of larvicidal oil and 104 pounds of Paris green were used in treating 47 acres of water surface.

4. Entomologic inspections were made in thirteen war areas as a check on the density and species of mosquitoes.

This program supplemented similar malaria control programs operating on military reservations and from available information was highly successful in controlling transmission of malaria.

Malaria control measures were carried out on nineteen major impoundments. The principal measures employed were the use of larvicides, maintenance of the shoreline and fluctuation of the water's level. In general, control of *Anopheles quadrimaculatus* on these major lakes was satisfactory with forty one per cent showing an appreciable decrease in average mosquito density, forty three per cent for which the change was negligible, while on twelve per cent the mosquito density increased. Field inspections were made of malaria control operations and conferences held with representatives of the owning agencies. It was reported that 169,852 gallons of larvicidal

oils and 435,290 pounds of Paris green were used on these lakes in combating production of the malaria-transmitting mosquito.

At the end of the year 976 minor impounded water projects were recorded as subject to the "Regulations Governing the Impounding of Waters." This figure represents an increase of 46 projects over the preceding year. County health department personnel made 346 inspections of minor impounded water projects giving a statewide average of 0.35 inspections per project.

Special investigations were made of malaria problems in five areas which were primarily proposed for military occupation.

Screening and mosquito proofing of 652 houses within one mile of certain areas of Wheeler Reservoir were repaired during the year. In this connection it is proposed to mosquito-proof and screen approximately 300 houses in the North Sauty Creek, North Town Creek and Raccoon Creek areas of Guntersville Reservoir during the early part of 1944.

The trend of malaria during the past year is of particular interest. The state experienced 63 deaths from this disease during the year indicating a death rate of 2.1 per 100,000 persons. This rate is the lowest since 1926 if not in the history of the state. Of 12,948 examinations of blood for malaria parasites made by the state laboratories, only 214 or 1.65 per cent were found positive.

Sanitation: During the year there were some thirty eight changes in sanitation officer personnel. This included two new men being employed, three entering the Army, eight resigning, fifteen transferring, and two men being reemployed upon return from the Army. Two men were given four months' training at Vanderbilt University. At the end of the year twenty seven counties had full-time sanitation officer service and seventeen had part-time service; i.e., a man serving more than one county.

Protection from waste-borne diseases was extended to 36,997 by the competion of 7,672 new and restored approved facilities for the sanitary and proper disposal of excreta. This included 3,551 new privies, 1,735 new septic tanks, 2,386 sewer connections, 893 restored privies and septic tanks. Building material and labor shortages seriously hampered this type of work.

During the past year, for its families, the Farm Security Administration reported in its environmental sanitation program that 425 privies had been built or repaired, 335 water supplies provided and 366 houses screened.

In order to be in a position to take immediate advantage of any postwar work program offered, the county sanitation personnel were urged to make sanitary surveys of the communities in their counties. This work has been completed in some municipalities and is in progress in some others.

The state's educational authorities were presented with a report of the sanitary conditions of the school system in fifty seven of the sixty seven counties. The report incorporated certain recommendations regarding the correction of the sit-

uation which was found to be very bad. It was thought out that the report could possibly be used by, and be of value to, the Educational Survey Commission. It was hoped that the educational authorities would make whatever connections possible under wartime conditions, and use the report to plan for the complete and proper sanitation of all the schools as soon as possible. Aid was given the Farm Security Administration in counties where money was provided for sanitation projects. Contractors were trained, inspections and approval of completed structures were made, and other assistance was given in seven counties not having sanitation officers.

In counties where FSA homes and other federal housing projects were constructed inspection and approval of the sanitary installations were made by the county sanitation officers.

Assistance was given all county health units through correspondence, routine field visits, and special investigations.

Sewerage: There are no specific legislative acts granting supervision and control of sewerage works to the State Board of Health; nor are there state laws with reference to stream pollution by domestic sewage and industrial waste. The department has been handicapped in its operation in the past by the lack of such laws. However, it is felt that legislation with reference to stream pollution should be on a national level in order to secure uniform pollution abatement.

However, close cooperation has been secured from practicing engineers and it is the general procedure for engineers to submit plans and specifications to the State Board of Health for comments, recommendations and approval. Twelve sets of plans and specifications of proposed sewerage projects were checked and permits issued. Eleven sewerage projects, including treatment plants, were completed and nine additional projects were under construction. total value of approximately \$2,000,000 is involved. In an effort to aid practicing engineers on construction and to give instructions to operators, fifty two visits were made to sewage treatment

Drafting: The year's work in the drafting section of the Division of Engineering for 1943 followed largely the pattern of the previous year with the critical areas of the state again receiving the major share of attention. A considerable amount of special work was done for the various bureaus and divisions of Central Administration in promoting their year's work. A large part of the work, however, emanated from the congested areas in the state where military reservations and defense centers were established.

In addition to current work in the department, the drafting section has been called on to assume added responsibility under wartime needs which is reflected in the varied demands for special work from the different departments. Calls for posters, placards, miscellaneous, USO certificates, stencils, etc. all found their way to the drafting room to be worked up.

Plans and specifications for the Service Men's Honor Roll were drawn and upon completion the plaque was installed in the main building of the State Health Department. The names of those members now in service were made and placed by the drafting section which will also be responsible for keeping the plaque up to date. Some time and thought were given to postwar plans. Upon request, recommendations as to estimated needs for space in a proposed state office building for housing the health and other state agencies were compiled and forwarded to the State Planning Commission. An exhibit which received favorable comment was prepared for the Bureau of Maternal and Child Health and presented at the meeting of the State Medical Association in Birmingham. Careful consideration was given to the routine duty of indexing and filing hundreds of technical magazines and bulletins which came to the department as yearly subscriptions and from various other agencies. These magazines and bulletins contain a vast source of pertinent technical data which form an indispensable reference library for the Bureau of Sanitation.

INSPECTION

One member of the staff was lost to the Army late in May, the division operating the remainder of the year with six field inspectors. The total number of inspections made this year was 9% greater than last year. Particular emphasis was placed on supervision of food manufacturing plants as well as on milk and milk products.

Some 15 local inspectors were lost with replacements being found for only 5 of these making 13 transfers of county inspection personnel, and discontinuance of inspection programs in 3 counties necessary. Although inspection programs were being carried on in 45 counties at the end of the year (one more than a year previous) this was only possible by setting up 4 additional inspection districts, with 17 counties now being served by 8 inspectors.

Fifty four food sanitation ratings were made for 44 counties. The average of the county rating figures is almost identical to that of 1942, being 91.0. Five small food-borne epidemics affecting 67 persons were reported. These were all of the food poisoning type. There were 88 food manufacturing establishments holding intercounty food permits at the end of the year, an increase of 21 over the previous year. The number of food serving establishments in the state decreased approximately 12%. The most probable causes for this decrease were labor shortage, drafting of operators, restrictions on equipment, and meat rationing which resulted in a rather large number of meat markets discontinuing operation. Advisory assistance on milk sanitation was rendered to 43 county health departments. Twenty-eight city milk sanitation ratings were made. One city which had not previously supervised its milk supply passed a milk ordinance. Two other cities amended their milk regulations to conform to the latest recommended standards of the State Board of Health.

Despite the fact that grade A milk production again increased about 10,000 gallons daily over 1942, insufficient milk was available to supply the demands except for the high production summer period. The consumption of pasteurized

milk again increased materially in communities where it is available. It is estimated that 75% of all market milk sold in the state at the close of the year had the added protection of pasteurization.

Shellfish sanitation required more time and inspections due to a larger number of oyster shucking and crabmeat picking plants in operation this year, 18 more receiving permits than in 1942.

TYPHUS FEVER CONTROL

A total of 639 cases of endemic typhus fever were reported and 22 deaths were attributed to it. This was almost double the number of cases recorded in 1942 and more than four times the number of deaths. According to reports of the U. S. Public Health Service Typhus Control Unit, a decided increase in the incidence of the disease occurred over the southern part of the United States during the year. The ever-increasing incidence and wider distribution of the disease is due to the indifference of the public to rat infestation and to the lack of knowledge of the potential danger of rats.

During 1943, the efforts of this department were directed mainly to the application of a semi-permanent method of rat proofing as advocated by the U. S. Public Health Service, the effectiveness of which cannot be determined at this time.

The immediate elimination of rats by extermination in infected areas to be followed by permanent control measures will be recommended for the ensuing year.

At this time, a study is being made in Coffee County in conjunction with the U. S. Public Health Service to evolve, if possible, improved methods of extermination and control which would be both effective and economical for rural and urban areas.

There were forty counties infected with typhus fever, having 639 cases with twenty two deaths. Thirty two towns were surveyed for rat extermination programs and twenty six programs inaugurated, using approximately 10,914 pounds of poisoned bait; material and equipment costing \$4,365.60. There were 5,290,000 cubic feet fumigated at a cost of \$1,322.50. Seven buildings were rat proofed and 875 rat stopped, costing \$33,109.-20. The educational program consisted of eighteen lectures and picture shows and forty-five news articles.

BUREAU OF VITAL STATISTICS

During the past year the bureau has been handicapped by the turnover in personnel. On January I we had fifty-one persons on the regular payroll. In addition to this there were forty four WPA employees who worked part time. In January of 1943 the WPA project was discontinued but fourteen persons were transferred to the state payroll. During the year thirty two persons other than WPA personnel left our employ.

A further handicap is the lack of office space. So many people come to the office for certificates that two rooms have had to be made into waiting rooms for the public.

Although the bureau employs almost three times as many persons as in normal times, the demands are so great for searches of the records and certified copies of the certificates that it is impossible to answer requests as promptly as is desirable. However, all requests for certified copies that state that they are for military purposes are given special handling. It has also been impossible to do the necessary follow-up work for improving registration or to query for the completion of the record.

A record was not kept during the past year of the number of certified copies issued, but an idea of the increase in the work may be gained from the amount of fees collected. During the year 1941, \$19,654 was collected in fees; in 1942, \$46,-077 was collected; while in 1943, the amount was \$54,396, an increase of 18% over 1942 and 177% over 1941. Of these amounts \$9,376 was refunded in 1942 and \$8,720 in 1943. These refunds were made in cases where too much money had been sent or there was no record of the certificate desired. The balance of \$45,676 in 1943 represents certified copies issued and cases still pending. This does not include certified copies requested by the Veterans' Administration, which are furnished free.

Since only about 65% of the requests are for certified copies, the amount of fees collected does not give a very accurate picture of the work involved in satisfying the demands of the public. Age cards were issued for school entrance, for working permits and various other purposes where certified copies were not required. Parents quite often send the names of all their children with the request that they be notified as to whether or not they are on record.

It has been found that about half the certificates filed, particularly in the earlier years, omitted the name of the child or contained other errors. Many times these were not discovered until the certified copy was issued. In an effort to secure a prompt correction of errors, the Bureau discontinued the old form of birth notification beginning with the July certificates. In its place each mother is sent a photostatic copy of her child's birth certificate together with a blank to be filled out and returned if there are any corrections. These are sent out under frank. As soon as this plan is working smoothly it will be possible to get the notifications to the parents earlier than under the old system.

There have been twelve people continuously employed in the work connected with the filing of delayed birth certificates. Almost half of the cases do not have sufficient evidence or have errors on the certificates and must be written to one or more times.

In accordance with the laws concerning adoptions, a copy of such decree of adoption granted in the probate courts was sent to the Bureau of Vital Statistics. A new birth certificate in the name of the adopting parents was prepared for each case and was substituted for the old one. There were 409 adoption certificates made, an increase of 106 over 1942.

Original certificates of birth, death, stillbirth and marriages are received monthly. These are

systematically arranged, numbered and bound in volumes for permanent preservation.

In the year 1943, a total of 160,935 such certificates were received, an increase of 9.8% over 1942. There were 76,873 birth certificates and 55,501 marriage certificates received.

Trends in Vital Statistics: All statistics included in this report are provisional. It has been very difficult to make population estimates as a basis for rates. The Census Bureau has issued an estimate based on the number that registered for ration books on May 1, 1942, and this has been used as a basis for our estimate of a state population of 2,946,893.

Births: A total of 76,878 live births were registered in Alabama during the year 1943, a rate of 26.1 per 1,000 population. This compares with a rate of 25.2 for 1942 and an average of 22.3 for the five-year period 1937-1941. This was an increase of 3.6% over 1942 and 17.0% over the average for the previous five years.

Stillbirths: There were 2,417 stillbirths recorded in the year of 1943 with a rate of 30.5 per 1,000 total births. This compares with a rate of 31.9 for 1942. Since there were about 7.8 fewer stillbirths per 1,000 total births recorded in 1942 than for the average of the previous five years, it will be seen that the stillbirth rate is still declining.

Deaths: There were 26,139 deaths reported for 1943, with a rate of 8.9 per 1,000 population. This compares with a rate of 9.2 for 1942 and 10.5 for the 1937-1941 average.

Of the principal causes of death, only heart disease and pneumonia showed slight increases over the previous year. Even these causes showed a decrease from the 1937-1941 average. The table below shows the number and rate of the more important causes of death for 1943, 1942 and the five-year average 1937-1941.

Number and Rate of Deaths by Major Causes

15	943	19	942	Average— 1937-1941		
No.	Rate*	No.	Rate*	No.	Rate*	
5,035	170.8	4,801	166.9	4,832	171.4	
2,303	78.2	2,329	81.0	2,244	79.6	
2,066	70.1	2,140	74.4	2,414	85.6	
1.943	66.0	2,105	73.2	1.921	68.1	
1,833	62.2	1,843	64.1	1.741	61.8	
1.547	52.5	1.451	50.4	1.963	69.6	
1,266	43.0	1,329	46.2	1,584	56.2	
345	11.7	390	13.6	337	12.0	
308	10.4	391	13.6	502	17.8	
296	†37.3	292	†39.0	374	†57.0	
	No. 5,035 2,303 2,066 1,943 1,833 1,547 1,266 345 308	5,035 170.8 2,303 78.2 2,066 70.1 1,943 66.0 1,833 62.2 1,547 52.5 1,266 43.0 345 10.4	No. Rate* No. 5,035 170.8 4,801 2,303 78.2 2,329 2,066 70.1 2,140 1,943 66.0 2,105 1,843 62.2 1,843 1,547 52.5 1,451 1,266 43.0 1,329 345 11.7 390 308 10.4 391	No. Rate* No. Rate* 5,035 170.8 4,801 166.9 2,303 78.2 2,329 81.0 2,066 70.1 2,140 74.4 1,943 66.0 2,105 73.2 1,843 62.2 1,843 64.1 1,547 52.5 1,451 50.4 1,266 43.0 1,329 46.2 345 11.7 390 13.6 308 10.4 391 13.6	1943 1942 1937. No. Rate* No. Rate* No.	

*Per 1,000 population. †Per 10,000 total births.

Infant Deaths: In the year 1943 there were 3,464 deaths reported for infants under one year of age. The rate of 45.0 per 1,000 births was a decrease of 10.2% over the rate of 50.1 for 1942 and 26.2% over the rate of 61.0 per 1,000 live births for the previous five-year average. The death rate for infants under one month of age showed an even greater decrease over the previous year, 12.8%. There were 2,047 neonatal deaths reported with a rate of 26.6 per 1,000 live births. In 1942 there were 2,214 neonatal deaths with a rate of 30.5.

Deaths from Communicable Diseases: Only three causes in this group, whooping cough, meningitis and typhoid fever, showed an increase

over the previous year and of these causes the rate for meningitis was the only one that showed an increase over the five-year average. The table below shows the number and rate per 1,000 population for this group of causes for 1943 and the 1937-1941 average.

Deaths from Communicable Diseases with Rates per 1,000 Population

	19	43	1	942		-1941 erage
Cause	No.	Rate	No.	Rate	No.	Rate
Whooping cough	135	4.6	93	3.2	159	5.6
Malaria	63	2.1	95	3.3	193	6.8
Meningitis	59	2.0	25	0.9	51	1.8
Diphtheria	42	1.4	44	1.5	81	2.9
Measles	19	0.6	31	1.1	77	2.7
Typhoid fever	16	0.5	9	0.3	45	1.6
Poliomyelitis	7	0.2	19	0.7	27	1.0
Scarlet fever	2	0.1	4	0.1	14	0.5

Part III of the Board's report was adopted. The report of the Board was adopted as a whole.

REVISION OF THE ROLLS

The next order of business being the revision of the Rolls of the Association, the Secretary was directed by President Wilkerson to proceed without interruption in the absence of objection. As a preface to the revision of the Roll of County Societies, the Secretary said:

"County Medical Societies, to comply with the Constitution, must meet certain obligations. First, an annual report, on forms furnished by the Association, must be filed with the Secretary; second, each society is expected to be represented at the annual meeting by at least one delegate; and, third, dues are to be remitted for each member not exempt from payment of dues."

With this foreword, the revision proceeded.

1. Revision of the Roll of County Societies:

- (a) County societies which have fulfilled all their constitutional obligations: Autauga, Baldwin, Barbour, Blount, Bullock, Butler, Calhoun, Chambers, Cherokee, Chilton, Choctaw, Clarke, Clay, Cleburne, Coffee, Colbert, Conecuh, Covington, Crenshaw, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Geneva, Houston, Jackson, Jefferson, Lauderdale, Limestone, Lowndes, Macon, Madison, Marengo, Marion, Marshall, Mobile, Monroe, Montgomery, Morgan, Perry, Pike, St. Clair, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker, Washington, Winston.—Total 54.
- (b) County societies partially delinquent: In that they are not represented by delegates at this meeting of the Association: Bibb, Greene, Henry, Lamar, Lee, Pickens, Randolph, Russell, Shelby, Wilcox. Delinquent in report and dues: Hale. Delinquent in dues and representation: Lawrence.—Total 12.
 - (c) County societies totally delinquent: Coosa.

No objection being made as to the correctness of this report, the President directed

the Secretary to write the counties delinquent in reports and dues, and, failing to remove the delinquencies, to call the societies to the attention of the State Board of Censors.

Whereupon the roll of County Medical Societies was declared closed until the next annual session of the Association.

The Secretary then said:

"In revising the Roll of Counsellors, five lists are prepared, designated respectively: (1) the schedule of counsellors clear on the books; (2) the schedule of delinquent counsellors—counsellors delinquent in attendance or dues, or against whom charges may be pending; (3) the schedule of miscellaneous counsellors—counsellors who have died since the last annual meeting, or have offered their resignation, or have moved out of the state, or out of their respective congressional districts; (4) the schedule of active counsellors of twenty years' standing; and (5) the schedule of counsellors-elect who have qualified as provided in the Constitution."

With such preface, the revision of the rolls was continued.

2. Revision of the Roll of Counsellors:

(a) Counsellors clear on the books: Abbott, Acker, Alison, Anderson, Austin, Barber, Belue, Boyd, Bragg, Brown, Brunson, Cannon, Carraway, Carter, Chenault, Cloud, Cocke, Collier, Conwell, Craddock, Daves, Davis, Eskew, Ford, Garber, Gibson, Godard, Granger, Gresham, Grote, Hatchett, Hill, R. C., Hill, R. Lee; Hodges, Howell, Isbell, Jackson, Jones, Killian, Killingsworth, King, Ledbetter, Lewis, Martin, McCaslan, Moore, C. W. C., Moore, D. S.; Morgan, Noland, Oswalt, Owings, Parker, Perdue, Redden, Riser, Roan, Salter, Scarbrough, Segrest, Sewell, Sherrill, Simpson, John W., Simpson, H. M.; Skinner, Smith, G. R., Smith, M. E.; Stabler, Stallworth, Tankersley, Taylor, Thacker, Tillman, Walsh, Waters, Watson, Weil, Welch, Weldon, White, Whiteside, Wilson, Woodruff, Wright.

In the absence of objection, the President ordered passed the names of these counsellors reported as clear on the books:

- (b) Delinquent Counsellors: None.
- (c) Miscellaneous Counsellors:
 - Life Counsellors who have died: W. M. Cunningham, E. M. Prince and Russell A. Smith.
 - (2) Active Counsellors who have died: W. D. Wood.
 - (3) Active Counsellors who have moved: R. M. Pool.
 - (4) Active Counsellors who have resigned: J. P. Smith.
- (d) Active Counsellors of twenty years' standing: M. H. Hagood, T. B. Hubbard, Robert L. Hill, E. M. Mason, J. J. Walls.

(e) Counsellors-Elect who have properly qualified: J. Mac Bell, George A. Denison, J. Paul Jones, Hughes Kennedy, Jr., J. O. Lisenby, J. A. Meadows, J. Ralph Morgan, R. C. Partlow, F. W. Riggs.

The President directed that the names of the deceased counsellors be transferred to the Book of the Dead; that the names of R. M. Pool and J. P. Smith be removed from the Roll of Active Counsellors; that M. H. Hagood, T. B. Hubbard, Robert L. Hill, E. M. Mason and J. J. Walls be transferred to the Roll of Life Counsellors; and that to the Roll of Active Counsellors be added J. Mac Bell, George A. Denison, J. Paul Jones, Hughes Kennedy, Jr., J. Otis Lisenby, J. A. Meadows, J. Ralph Morgan, R. C. Partlow and Frank W. Riggs.

Whereupon the President declared the Roll of the College of Counsellors closed until the next annual session of the Association.

3. Revision of the Roll of Correspondents:

Dr. Tinsley R. Harrison, the 1944 Jerome Cochran Lecturer, was added to the Roll of Correspondents.

4. Revision of the Roll of Officers:

Dr. Walter F. Scott of Birmingham was elected President; Dr. B. W. McNease, Fayette, Vice President of the Northwestern Division for a term of four years; and Drs. Lloyd Noland and J. D. Perdue, Censors for five years.

Committees constitutionally provided to nominate counsellors brought in the following nominations, and the nominees were elected by the Association: 1st District—W. A. Stallworth; 2nd—John L. Branch, E. F. Leatherwood, L. V. Stabler, C. K. Weil; 4th—C. W. C. Moore; 5th—R. A. Foshee, A. C. Gipson; 6th—C. T. Acker, W. C. Golden; 7th—E. T. Brown, R. B. Dodson; 8th—J. O. Belue, C. A. Grote; 9th—D. C. Donald, H. W. Allgood.

Miscellaneous Business

The Association adopted a resolution introduced by Dr. K. A. Mayer of Lower Peach Tree expressing gratitude to the Montgomery County Medical Society, the hotels of the city, and the press and radio for the many courtesies shown it during the session.

President Scott and other newly chosen officers were presented, whereupon the Association was declared adjourned to meet in Birmingham, April 17, 18, and 19, 1945.

THE ROLL OF COUNSELLORS

REVISION OF 1944

LIFE COUNSELLORS

Name and Address	Date of Election
Acker, Paul Jerome Morris, Mobile (1)	1923
Alison, Samuel Blakemore, Minter (4) Andrews, Glenn, Montgomery (2)	1919
Andrews, Glenn, Montgomery (2)	
Ashcraft, Virgil Lee, Reform (7)	1919
Bedsole, James G., Jackson (1)	1922
Bondurant, Eugene DuBose, Mobile (1)	1894
Burdeshaw, Shelby L., Headland (3)	1921
Caldwell, Edwin Valdivia, Huntsville (8)	
Chenault, Frank L., Decatur (8)	1022
Dabney, Marye Y., Birmingham (9) Davie, Mercer Stillwell, Dothan (3)	1923
Dowling, Judson D., Birmingham (9)	1922
Faulk, William M., Tuscaloosa (6)	1913
Gordon, Samuel A., Marion (6)	1913
Gordon, Samuel A., Marion (6) Gragg, Vincent J., Clanton (6)	
Gresham, George L., Speigner (4)	1913
Guice, Charles Lee, Gadsden (5)	1899
Hagood, M. H., Brewton (2)	1924
Harris, Seale, Birmingham (9)	1903
Harrison, William Groce, Birmingham (
Hayes, Charles Philips, Elba (3)	1920
	1920
Heacock, Jos. D., Birmingham (9)	
Heflin, Wyatt, Birmingham (9) Hill, Luther Leonidas, Montgomery (2)	1888
Hill, Robert L., Winfield (7)	1924
Hill, Robert Somerville, Montgomery (2)	1898
Howell, William Edward, Haleyville (7)	
Howle, James Augustus, Hartselle (8)	
Hubbard, T. Brannon, Montgomery (2)	1924
Jackson, Alva A., Florence (8) James, Norman G., Hayneville (2)	. 1918
James, Norman G., Hayneville (2)	1921
Leach, Sydney, Tuscaloosa (6) Lester, Belford S., Birmingham (9)	1920
Lester, Belford S., Birmingham (9)	1923
Lightfoot, Phillip Malcolm, Shorter (3)	
Long, Clarence, Hurtsboro (3)	
Lull, Cabot, Birmingham (9) Lupton, Frank A., Birmingham (9)	
Martin, James Cordie, Cullman (7)	1917
Mason, E. M., Birmingham (9)	1924
Mason, James Monroe, Birmingham (9)	
Mayer, Kossuth Aaron, Lower Peach Tre	e (1) 1919
McAdory, Edward Dudley. Cullman (7)	1920
McCain William Jasper, Livingston (6)	1898
McCall, Daniel T., Mobile (1) McLeod, John Calvin, Bay Minette (2) McLester, James Somerville, Birmingha	1923
McLeod, John Calvin, Bay Minette (2)	
Mohr, Chas. A., Mobile (1)	1909 6) 1909
Partlow, William Dempsey, Tuscaloosa (1919
Ralls, Arthur W., Gadsden (5) Rucker, Edmon W., Birmingham (9)	1922
Sankey, Howard J., Nauvoo (7)	1914
Scott, Walter F., Birmingham (9)	1922
Searcy, Harvey Brown, Tuscaloosa (6)	
Searcy, Harvey Brown, Tuscaloosa (6). Shropshire, Courtney W., Birmingham	(9) 1923
Sledge, Edward S., Mobile (1)	
Smith, Russell Aubrey, Brewton (2)	1918
Talley, Dyer Findley, Birmingham (9)	1902
Thigpen, Charles Alston, Montgomery	(2)
Thomas, Eugene Marvin, Prattville (4)	1920
Waldrop, R. W., Bessemer (9)	1922
Walker, Alfred A., Birmingham (9)	1924
Walls, J. J., Alexander City (5) Ward, Henry Silas, Birmingham (9) Wilkerson, Fred Wooten, Montgomery (1915
Wilkerson, Fred Wooten, Montgomery (2) 1919
Wilkinson David Leonidas, Birmingham	1902

ACTIVE COUNSELLORS

Those marked with a \dagger are serving last terms of six years.

. Those marked with an asterisk ($\mbox{\scriptsize °}\mbox{\scriptsize)}$ are serving second terms of seven years.

Those without a symbol are serving first terms of seven years.

The numeral is the number of the congressional dis-

the numeral is the number of the congi	ression	aı	ais-
trict.	Dat	e	of
	Elec-	E	xpi-
	tion	ra	tion
Abbott, Chas. E., Tuscaloosa (6) Acker, Charles T., Montevallo (6)	1938	to	1945
Acker, Charles T., Montevallo (6)	*1944	to	1951
Alison, James F., Selma (4)	.*1941	to	1948
Anderson, Thos. J., Greensboro (6)	*1940	to	1947
Austin, Burton F., Montgomery (2)	1941	to	1948
Barber, William J., Butler (1)	1942	to	1949
Bell, J. Mac, Mobile (1)	1943	to	1950
Belue, Julius O., Athens (8) Boyd, Frank H., Opelika (3) Bragg, John C., Decatur (8)	° 1944	to	1951
Boyd, Frank H., Opelika (3)	1939	to	1946
Bragg, John C., Decatur (8)	1941	to	1948
Brown, Elridge T., Cleveland (7) Brunson, Emmett T., Samson (3)	*1944	to	1951
Brunson, Emmett T., Samson (3)	*1943	to	1950
Cannon, Douglas L., Montgomery (2)	†1942	to	1948
Carraway, Chas. Newton, Birmingham (9)			
Carter, William R., Repton (2)	*1941	to	1948
Chenault, Erskine M., Decatur (8)	*1942	to	1949
Cloud, Robert E., Ensley (9)			
Cocke, William T., Demopolis (1)	1939	to	1946
Collier James P. Tuscaloosa (6)	1940	to	1947
Collier, James P., Tuscaloosa (6) Conwell, H. Earle, Birmingham (9)	1942	to	1949
Craddock French H Sylacauga (4)	*1939	to	1946
Craddock, French H., Sylacauga (4) Daves, James G., Cullman (7)	1938	to	1945
Davis, Lewis C., Gordo (7)	1030	to	1046
Denison, George A., Birmingham (9)	1043	to	1050
Eskew, M. H., Uniontown (6)	*10/1	to	10/10
Ford, Charles E., Roanoke (5)	1020	to	1046
Garber, James R., Birmingham (9)	• 1030	to	1046
Gibert Edward Lee Entennies (2)	1040	to	1047
Gibson, Edward Lee, Enterprise (3) Godard, Claud G., Fairhope (2)	1049	to	1040
Godard, Claud G., Fairnope (2)	+1049	to	1040
Granger, F. G., Ashford (3)	*1040	to	1047
Gresham, Walter A., Russellville (7)	*1940	to	1947
Grote, Carl A., Huntsville (8)	1944	to	1931
Hatchett, Wm. C., Huntsville (8)	. 71943	to	1949
Hill, Robert C., York (6)	1943	to	1950
Hill, R. Lee, Haleyville (7) Hodges, Rayford, Scottsboro (8)	1939	10	1940
Hodges, Rayford, Scottsboro (8)	. 1942	to	1949
Howell, John V., Marion (6) Isbell, Arthur L., Albertville (5) Jackson, Albert Chas., Jasper (7) Jones, Carl T., Newville (3) Jones, J. Paul, Camden (1) Kennedy, Hughes, Jr., Birmingham (9)	. *1943	to	1950
Isbell, Arthur L., Albertville (5)	1940	το	1947
Jackson, Albert Chas., Jasper (7)	1940	to	1947
Jones, Carl T., Newville (3)	1941	to	1948
Jones, J. Paul, Camden (1)	1943	to	1950
Kennedy, Hughes, Jr., Birmingham (9)	. 1943	to	1930
Killian, Claud D., Ft. Payne (5) Killingsworth, Noah W., Brundidge (2) King, Chas. O., Birmingham (9)	1940	to	1947
Killingsworth, Noah W., Brundidge (2)	1939	to	1946
King, Chas. O., Birmingham (9)	1938	to	1945
Ledbetter, Samuel L., Jr., Birmingham (9). Lewis, Walter A., Enterprise (3) Lisenby, J. Otis, Atmore (2)	*1942	to	1949
Lewis, Walter A., Enterprise (3)	*1940	to	1947
Lisenby, J. Otis, Atmore (2) Martin, John A., Montgomery (2)	1943	to	1950
Martin, John A., Montgomery (2)	1940	to	1947
McCaslan, W. Hill, Union Springs (3)	1940	to	1947
Meadows, James A., Birmingham (9)	1943	to	1950
Moore, C. W. C., Talladega (4)	* 1944	to	1951
Moore, David S., Jr., Birmingham (9)	*1939	to	1946
Morgan, J. Orville, Gadsden (5) Morgan, J. Ralph, Birmingham (9)	1939	to	1946
Morgan, J. Ralph, Birmingham (9)	1943	to	1950
Noland, Lloyd, Fairfield (9)	†1943	to	1949
Oswalt, G. G., Mobile (1)	†1943	to	1949
Owings, W. J. B., Brent (6)	1941	to	1948
Parker, Lorenzo D., Andalusia (2)	. *1940	to	1947
Partlow, Rufus C., Tuscaloosa (6)	1943	to	1950
Perdue, James D., Mobile (1)	. *1940	to	1947
Redden, Raymond Hollis, Sulligent (7)	_ †1940	to	1946
Riggs, Frank W., Montgomery (2)	1943	to	1950

ACTIVE COUNSELLORS—Continue	i D	ate	of
	Elec-	E	xpi-
	tion	ra	tion
Riser, William H., Lafayette (5)	*1942	to	1949
Roan, Avery M., Decatur (8)	1941	to	1948
Salter, Wilbur M., Anniston (4)	*1941	to	1948
Scarbrough, B. C., Albertville (5)	*1942	to	1949
Segrest, Grady O., Mobile (1)	1942	to	1949
Sewell, John Ferris, Wetumpka (4)	1940	to	1947
Sherrill, John D., Birmingham (9)	1939	to	1946
Simpson, John W., Birmingham (9)	1942	to	1949
Simpson, Harry M., Florence (8)	1938	to	1945
Skinner, Marcus, Selma (4)	1939	to	1946
Smith, Gordon R., Ozark (3)	*1941	to	1948
Smith, Merle E., Parrish (7)	1938	to	1945
Stabler, Lorenzo V., Greenville (2)	*1944	to	1951
Stallworth, William A., Frisco City (1)	° 1944	to	1951
Tankersley, James, Prattville (4)	†1942	to	1948
Taylor, Woodie R., Town Creek (8)	†1939	to	1945
Thacker, Vincent J., Dothan (3)	*1942	to	1949
Tillman, John S., Clio (3)	*1942	to	1949
Walsh, Groesbeck, Fairfield (9)	*1940	to	1947
Waters, Hinton W., Opp (2)	1939	to	1946
Watson, Jerre, Anniston (4)	1938	to	1945
Weil, Clarence K., Montgomery (2)	*1944	to	1951
Welch, Stewart, Birmingham (9)	*1941	to	1948
Weldon, Joseph M., Mobile (1)	*1942	to	1949
White, Alexander L., Thomasville (1)	†1942	to	1948
Whiteside, Maurice S., Cullman (7)	1941	to	1948
Wilson, Frank C., Birmingham (9)	1942	to	1949
Woodruff, Gerald G., Anniston (4)	1940	to	1947
Wright, David H., Berry (7)	*1939	to	1946
Total 92			

COUNSELLORS-ELECT

Allgood, Homer W., Fairfield (9)	1944 to 195	51
Branch, John L., Montgomery (2)	1944 to 195	51
Dodson, Robert B., Cullman (7)	1944 to 195	51
Donald, Dan C., Birmingham (9)	1944 to 195	51
Foshee, Reuben A., Alexander City, Rt. 5 (5)	1944 to 195	51
Gipson, Amos C., Gadsden (5)	1944 to 195	51
Golden, William C., Clanton (6)	1944 to 195	51
Leatherwood, Elbert F., Hayneville (2)	1944 to 195	51

THE ROLL OF THE COLLEGE OF COUNSEL-LORS BY CONGRESSIONAL DISTRICTS

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number. On April 1, 1944, there were 1,584 members in the County Medical Societies. That would give one Counsellor to every 16 members. The membership set forth in the following is that of April 1.

FIRST DISTRICT

Names of Counsellors—W. T. Cocke, Marengo; W. J. Barber, Choctaw; A. L. White, Clarke; G. G. Oswalt, G. O. Segrest, J. M. Weldon, J. D. Perdue and J. Mac Bell, Mobile; W. A. Stallworth, Monroe; J. Paul Jones, Wilcox.

County	Members	Counsellors
Choctaw	7	1
Clarke	17	1

Marengo	12	1
Mobile	104	5
Monroe	9	1
Washington	3	0
Wilcox	10	1
	169	10

SECOND DISTRICT

Names of Counsellors—C. G. Godard, Baldwin; L. V. Stabler, Butler; W. R. Carter, Conecuh; L. D. Parker and H. W. Waters, Covington; J. O. Lisenby, Escambia; E. F. Leatherwood, Lowndes; J. L. Branch, F. W. Riggs, J. A. Martin, C. K. Weil, Douglas L. Cannon and B. F. Austin, Montgomery; and N. W. Killingsworth, Pike.

County	Members	Counsellors
Baldwin	11	1
Butler	14	1
Conecuh	8	1
Covington	21	2
Crenshaw	8	0
Escambia	_ 13	1
Lowndes	6	1
Montgomery	103	6
Pike	. 16	1
	200	14

THIRD DISTRICT

Names of Counsellors—J. S. Tillman, Barbour; W. H. McCaslan, Bullock; E. L. Gibson and W. A. Lewis, Coffee; G. R. Smith, Dale; E. T. Brunson, Geneva; C. T. Jones, Henry; V. J. Thacker and F. G. Granger, Houston; and F. H. Boyd, Lee.

County	Members	Counsellors
Barbour	15	1
Bullock	6	1
Coffee	15	2
Dale	10	1
Geneva	15	1
Henry	8	1
Houston	30	2
Lee	22	1
Macon	7	0
Russell	5	0
	133	10

FOURTH DISTRICT

Names of Counsellors—James Tankersley, Autauga; W. M. Salter, Jerre Watson and G. G. Woodruff, Calhoun; J. F. Alison and Marcus Skinner, Dallas; J. F. Sewell, Elmore; and French Craddock and C. W. C. Moore, Talladega.

		_
County	Members	Counsellors
Autauga	7	1
Calhoun	41	3
Clay	9	0
Coosa	3	0
Dallas	36	2
Elmore		1
St. Clair	11	0
Talladega	. 31	2
	151	Q

FIFTH DISTRICT

Names of Counsellors—W. H. Riser, Chambers; C. D. Killian, DeKalb; A. C. Gipson and J. O. Morgan, Etowah; A. L. Isbell and B. C. Scarbrough, Marshall; C. E. Ford, Randolph; and R. A. Foshee, Tallapoosa.

County	Members	Counsellors
Chambers	16	1
Cherokee	3	0
Cleburne		0
DeKalb	15	1
Etowah	66	2
Marshall	17	2
Randolph	10	1
Tallapoosa	17	1
	147	3

SIXTH DISTRICT

Names of Counsellors—W. J. B. Owings, Bibb; W. C. Golden, Chilton; T. J. Anderson, Hale; M. H. Eskew and J. V. Howell, Perry; C. T. Acker, Shelby; R. C. Hill, Sumter; and J. P. Collier, R. C. Partlow and C. E. Abbott, Tuscaloosa.

County	Members	Counsellors
Bibb	. 12	1
Chilton	11	1
Greene	6	0
Hale		1
Perry		2
Shelby	17	1
Sumter	15	1
Tuscaloosa		3
	130	10

SEVENTH DISTRICT

Names of Counsellors—E. T. Brown, Blount; R. B. Dodson, J. G. Daves and M. S. Whiteside, Cullman; D. H. Wright, Fayette; W. A. Gresham, Franklin; R. H. Redden, Lamar; L. C. Davis, Pickens; A. C. Jackson and M. E. Smith, Walker; and R. Lee Hill, Winston.

County	Members	Counsellors
Blount		1
Cullman	20	3
Fayette		1
Franklin	15	1
Lamar	10	1
Marion	12	0
Pickens	12	1
Walker	29	2
Winston	8	1
	127	11

EIGHTH DISTRICT

Names of Counsellors—Rayford Hodges, Jackson; H. M. Simpson, Lauderdale; W. R. Taylor, Lawrence; J. O. Belue, Limestone; W. C. Hatchett and C. A. Grote, Madison; and E. M. Chenault, J. C. Bragg and A. M. Roan, Morgan.

County	Members	Counsellors
Colbert		0
Jackson		1
Lauderdale	24	1

Lawrence	- 8	1
Limestone	14	1
Madison	27	2
Morgan	23	3
	126	9

NINTH DISTRICT

Names of Counsellors—S. H. Welch, J. D. Sherrill, Lloyd Noland, J. R. Garber, D. S. Moore, Jr., Groesbeck Walsh, C. O. King, S. L. Ledbetter, Jr., R. E. Cloud, C. N. Carraway, H. Earle Conwell, J. W. Simpson, F. C. Wilson, G. A. Denison, Hughes Kennedy, Jr., J. A. Meadows, Ralph Morgan, D. C. Donald and H. W. Allgood.

County	Members	Counsellors
Jefferson	408	19

THE ROLL OF CORRESPONDENTS

"Distinguished members of the medical profession residing outside of the State, and Counsellors of the Association, who after not less than ten years of faithful service may have resigned their counsellorships, shall be eligible for election as Correspondents.

"Correspondents shall have the privilege of transmitting or presenting to the Association such communications, or scientific essays, as they may deem proper."—From the Constitution.

• •	
Name and Address	Date of Election
Andrew J. Coley, Oklahoma Cit	y1909
W. S. Thayer, Baltimore	
Lewellys F. Barker, Baltimore	1921
Rudolph Matas, New Orleans	
John B. Elliott, Jr., New Orlean	ns 1921
Henry A. Christian, Boston	1921
H. A. Royster, Raleigh, N. C.	1926
Stewart Roberts, Atlanta	1927
G. Canby Robinson, Baltimore	1928
Louis B. Wilson, Rochester, Mini	n 19 3 0
A. Benson Cannon, New York	1932
J. Shelton Horsley, Richmond	1933
Russell L. Cecil, New York	1934
George H. Semken, New York	1935
Frank H. Lahey, Boston	1937
T. M. McMillan, Philadelphia	1938
George T. Pack, New York	1939
E. V. McCollum, Baltimore	
Harvey B. Stone, Baltimore	1942
Albert C. Furstenberg, Ann Arb	
Tinsley R. Harrison, Dallas, Texa	as 1944

SCHEDULE OF THE ANNUAL SESSIONS AND PRESIDENTS SINCE THE RE-ORGANIZATION IN 1868

Place and President	Year
Selma—Albert Galatin Mabry	1868
Mobile—Albert Galatin Mabry	1869
Montgomery—Richard Frazer Michel	1870
Mobile—Francis Armstrong Ross	1871
Huntsville—Thomas Childress Osborne	1872
Tuscaloosa—George Ernest Kumpe	1873
Selma—George Augustus Ketchum	1874
Montgomery—Job Sobieski Weatherly	1875
Mobile—John Jefferson Dement	1876
Birmingham—Edward Davies McDaniel	1877

Place and President	Year
Eufaula—Peter Bryce	1878
Eufaula—Peter Bryce Selma—Robert Dickens Webb	1879
Huntsville—Edmond Pendleton Gaines	1880
Montgomery—William Henry Anderson	1881
Mobile—John Brown Gaston	1882
Birmingham—Clifford Daniel Parke	
Selma—Mortimer Harvey Jordan Greenville—Benjamin Hogan Riggs	1005
Anniston—Francis Marion Peterson	1886
Tuscaloosa—Samuel Dibble Seelve	1887
Montgomery—Edward Henry Sholl	1888
Mobile—Milton Columbus Baldridge	1889
Birmingham—Charles Higgs Franklin Huntsville—William Henry Sanders Montgomery—Benjamin James Baldwin Selma—James Thomas Searcy	1890
Huntsville—William Henry Sanders	1891
Montgomery—Benjamin James Baldwin	1892
Birmingham—Thaddeus Lindley Robertson	1004
Mobile—Richard Matthew Fletcher	1895
Montgomery—William Henry Johnston	1896
Selma_Barckley Wallace Toole	1897
Birmingham—Luther Leonidas Hill	1898
Mobile—Henry Altamont Moody	1899
Birmingham—Luther Leonidas Hill Mobile—Henry Altamont Moody Montgomery—John Clarke LeGrande Selma—Russell McWhorter Cunningham	1900
Selma—Russell McWhorter Cunningham	1901
Birmingham—Edwin Lesley Marechal	1902
Birmingham—Edwin Lesley Marechal Talladega—Glenn Andrews Mobile—Matthew Bunyan Cameron Montgomery—Capers Capehart Jones Birmingham—Eugene DuBose Bondurant Mobile—George Tighlman McWhorter Montgomery—Samuel Wallace Welch Birmingham—Benjamin Leon Wyman	1903
Montgomery—Capers Capehart Jones	1904
Birmingham—Eugene DuBose Bondurant	1906
Mobile—George Tighlman McWhorter	1907
Montgomery—Samuel Wallace Welch	1908
Diffilligitati Delijatitii Leon wyman	. 1303
Mobile—Wooten Moore Wilkerson	.1910
Montgomery—Wyatt Heflin Blake Birmingham—Lewis Coleman Morris Mobile—Harry Tutwiler Inge Montgomery—Robert S. Hill Birmingham—Benjamin Britt Simms	1911
Mobile Harry Tutwiler Ingo	1912
Montgomery—Robert S. Hill	1914
Birmingham—Benjamin Britt Simms	1915
Modile—James Norment Baker	1910
Montgomery—Henry Green Birmingham—William Dempsey Partlow	1917
Birmingham—William Dempsey Partlow	1918
Mobile—Isaac LaFayette Watkins Anniston—James Somerville McLester Montgomery—Louis William Johnston Birmingham—Dyer F. Talley Mobile—Walter S. Britt Montgomery—W. W. Harper	1919
Anniston—James Somerville McLester	1920
Rirmingham—Duer F Talley	1021
Mobile—Walter S. Britt	1923
Montgomery—W. W. Harper	1924
Birmingham—J. D. Heacock	1925
Mobile—C. A. Monr	1926
Montgomery—A. L. Harlan	1927
Birmingham—John D. S. Davis	1928
Mobile—E. V. Caldwell Montgomery—L. E. Broughton Birmingham—W. G. Harrison	1929
Rirmingham—W G Harrison	1930 1931
Mobile—Toulmin Gaines	1932
Montgomery—Samuel Kirkpatrick	1933
Montgomery—Samuel Kirkpatrick Birmingham—James R. Garber	1934
Mobile—William M. Cunningham	1935
Montgomery—Charles A. Thigpen	1936
Birmingham—Lloyd Noland	1937
Mobile—E. S. Sledge	1938
Montgomery—Seale Harris, Sr.	1939
Birmingham—M. S. Davie	1940
Mobile—Samuel A. Gordon Montgomery—James M. Mason	
Birmingham—Harvey B. Searcy	
Montgomery—Fred W. Wilkerson	1044
monegoniciy—ried w. wincerson	1011

SECRETARIES OF THE ASSOCIATION

1852-1854	George A. Ketchum
1854-1855	R. Miller
1869-1873	Jerome Cochran
1874-1878	B. H. Riggs
1879-1892	T. A. Means
1893-1897	J. R. Jordan
1897-1904	G. P. Waller
1904-1906	L. C. Morris
1906-1915	J. N. Baker
1915-1923	H. G. Perry
1923-1924	Douglas L. Cannon
1924-1930	B. B. Simms
1930-1940	Douglas L. Cannon

TREASURERS OF THE ASSOCIATION

1854-1855	W. P. Reese
1869-1898	W. C. Jackson
1898-1915	H. G. Perry
1915-1939	J. U. Ray

SECRETARY-TREASURERS OF THE ASSOCIATION

1940- Douglas L. Cannon

SCHEDULE OF JEROME COCHRAN LECTURERS

1899-J. T. Searcy, Tuscaloosa-What Is Insanity?

1900-Wm. Osler, Baltimore-Not present.

1901-Wm. Osler, Baltimore-Not present.

1902—Nathan Bozeman, New York—Declined. 1903—George H. Price, Nashville—The History

1904-W. S. Thayer, Baltimore-Cardiac and Vascular Complications of Typhoid Fever.

1905-Robert Abbe, New York-The Problems of Surgery.

1906—Joseph Collins, Boston—Arteriosclerosis. 1907—Nicholas Senn, Chicago—Final Triumph of Scientific Medicine.

1908-E. L. Marechal, Mobile-Absent.

1909—Lewellys F. Barker, Baltimore—Clinical Methods of Cardiac Investigation.

1910-Frank S. Meara, New York-Some Problems of Nutrition in Early Life.

1911—Rudolph Matas, New Orleans—Inflam-

matory Tuberculosis. 1912-Maurice H. Richardson, Boston-Elimi-

nation of Preventable Disasters from Surgery.

1913—L. L. Hill, Montgomery—Surgical Complications and Sequelae of Typhoid Fever.

1914—Frank Smithies, Chicago—Contributions of the Twentieth Century to the Better Understanding of Gastric Cancer.

1915—John B. Elliott, Jr., New Orleans—Ab-

scess of Liver.

Birmingham

1916—Howard A. Kelly, Baltimore—Radium Therapy.

1917—Wm. J. Mayo, Rochester—Importance of Septic Infection in the Three Great Plagues.

1918—George E. Bushnell, Washington—The Army in Relation to the Tuberculosis Problem.

1919—George W. Crile, Cleveland, Ohio—Abdominal Surgery in Civil and Military Hospitals.

1920—Henry A. Christian, Boston—Bright's Disease With Special Reference to Its Treatment. 1921—J. Whitridge Williams, Baltimore—A Critical Review of Twenty-One Years' Experience with Caesarean Section.

1922—Chas. H. Mayo, Rochester, Minn.—The Thyroid and Its Diseases.

1923—Jas. S. McLester, Birmingham—Nutrition in Its Newer Aspects.

1924—James S. Stone, Boston—Abdominal Diagnoses in Children.

1925—H. A. Royster, Raleigh—The Surgeon's Heritage and Outlook.

1926—Stewart Roberts, Atlanta—The Heart Muscle.

1927—G. Canby Robinson, Baltimore—The Mechanism of Heart Failure and Its Correction.

1928—John B. Deaver, Philadelphia—Chronic Pancreatitis.

1929—Louis B. Wilson, Rochester, Minn.—Some Suggestions for Improved Training of Medical Specialists.

1930—Walter E. Sistrunk, Dallas, Texas—The Part That Surgical Anesthesia Has Played in Medical Science.

1931—R. S. Cunningham, Nashville, Tenn.—Studies on the Pathology of Tuberculosis and Syphilis.

1932—A. Benson Cannon, New York—Practical Points on the Diagnosis and Treatment of the so-called Lymphoblastoma Group of Diseases.

1933—J. Shelton Horsley, Richmond—Cancer of the Stomach and Colon.

1934—Russell L. Cecil, New York—Present Trends in the Study of Rheumatic Fever and Rheumatoid Arthritis.

1935—George H. Semken, New York—A Consideration of Tumors of the Breast.

1936—William D. Partlow, Tuscaloosa—A Debt the World Owes Medical Science.

1937—Frank H. Lahey, Boston—Carcinoma of the Colon and Rectum.

1938—T. M. McMillan, Philadelphia—An Optimistic View of Some of the Problems of Heart

1939—George T. Pack, New York—Recent Advances in the Radiation Therapy of Cancer.

1940—E. V. McCollum, Baltimore—Some Contributions of Nutritional Research to Clinical Medicine.

1941—M. Y. Dabney, Birmingham—The Story of Breast Cancer.

1942—Harvey B. Stone, Baltimore—Biliary Diseases as Seen by a Surgeon.

1943—A. C. Furstenberg, Ann Arbor—Objectives in Medical Education.

1944—Tinsley R. Harrison, Dallas, Texas—The Value and Limitations of Laboratory Tests in the Practice of Medicine.

OFFICERS OF THE ASSOCIATION

PRESIDENT

Walter F. Scott (1944)

VICE-PRESIDENTS		
J. Paul Jones (1945)	Camden	
J. O. Morgan (1946)	Gadsden	
W. Hill McCaslan (1947)	Union Springs	
B. W. McNease (1948)	Fayette	

SECRETARY-TREASURER

Douglas L. C	Cannon (1945)	Montgomery
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THE STATE BOARD OF CENSORS

E. V. Caldwell, Chm. (1945)	Huntsville
M. S. Davie (1945)	Dothan
K. A. Mayer (1946)	Lower Peach Tree
M. Y. Dabney (1946)	Birmingham
T. B. Hubbard (1947)	
W. D. Partlow (1947)	Tuscaloosa
French Craddock (1948)	Sylacauga
	Montgomery
F. W. Wilkerson (1945)†	Montgomery
Lloyd Noland (1949)	Fairfield
J. D. Perdue (1949)	Mobile

STATE HEALTH OFFICER

В.	F.	Austin	(1947)				Montgomery
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DELEGATES AND ALTERNATES TO THE AMERICAN MEDICAL ASSOCIATION

Delegate—Lloyd Noland Fairfield
Alternate—E. D. Lineberry Birmingham
(Terms expire with the 1945 session of the
American Medical Association)

Delegate—A. A. Walker Birmingham Alternate—G. O. Segrest Mobile (Terms expire with the 1946 session of the

American Medical Association)

COMMITTED ON TODAIO MEDITIONS	
B. F. Austin, Chairman, Montgomery	1946
J. O. Morgan, Gadsden	1945
G. O. Segrest, Mobile	1947
J. R. Garber, Birmingham	1948
M. M. Duncan, Huntsville	1949

COMMITTEE ON MENTAL HYGIENE

Frank A. Kay, Chairman, Tuscaloosa	1947
E. S. Sledge, Mobile	1946
C. M. Rudolph, Birmingham	1945

COMMITTEE ON MATERNAL AND INFANT WELFARE A. E. Thomas, Chairman, Montgomery 1947 Hughes Kennedy, Jr., Birmingham 1946

COMMITTEE ON CANCER CONTROL

T. M. Boulware, Birmingham

J. P. Chapman, Chairman, Selma	1946
K. F. Kesmodel, Birmingham	1947
H. M. Simpson, Florence	. 1945

COMMITTEE ON PREVENTION OF BLINDNESS AND DEAFNESS

B. B. Warwick, Chairman, Talladega	1947
W. B. Hardy, Birmingham	
Lucien Brown, Gadsden	1945

*Resigned May 10, 1944.

†Appointed by the President to succeed Dr. Thigpen and to serve until the annual session in 1945.

COMMITTEE ON POSTGRADUATE STUDY		S. A. Gordon, Marion 1947				
Ralph McBurney, Chairman, University	1945	E. B. Carmichael, Ph. D., University Associate				
G. Ö. Segrest, Mobile		COMMITTEE ON PHYSICIAN-DRUGGIST RELATIONSHIPS				
COMMITTEE ON ACCIDENTS AND INDUSTR	ΙΔΤ.	R. E. Cloud, Chairman, Ensley				
HYGIENE	IALL .	W. M. Salter, Anniston 1946				
C. H. Ford, Chairman, Birmingham	1946	Seale Harris, Sr., Birmingham 1947				
Marcus Skinner, Selma	POSTWAR PLANNING COUNCIL					
H. Earle Conwell, Birmingham	1945	M. S. Davie, Chairman Dothan				
COMMITTEE ON ARCHIVES AND HISTORY	7	C. A. Grote Huntsville J. Banks Robertson Fayette				
M. Y. Dabney, Chairman, Birmingham		W. Hill McCaslan Union Springs				
G. F. Walsh, Fairfield		J. Paul Jones Camden				
Toulmin Gaines, Mobile	1948	B. F. Austin Montgomery				

REGISTRATION AT THE SEVENTY-SEVENTH CONSECUTIVE ANNUAL SESSION MONTGOMERY, APRIL 18-20, 1944

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Alison, S. B., Minter Bedsole, J. G., Jackson Burdeshaw, S. L., Headland Caldwell, E. V., Huntsville Chenault, F. L., Decatur Dabney, M. Y., Birmingham Davie, M. S., Dothan Gresham, G. L., Speigner Harris, Seale, Birmingham Harrison, W. G., Birmingham Hayes, C. P., Elba

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King, C. O., Birmingham Stallworth, W. A., Frisco City Ledbetter, S. L., Jr., Birming-Lewis, W. A., Enterprise Lisenby, J. O., Atmore Mason, E. M., Birmingham McCaslan, W. H., Union Springs Moore, C. W. C., Talladega Moore, D. S., Birmingham Morgan, J. O., Gadsden Morgan, J. R., Birmingham Noland, Lloyd, Fairfield Oswalt, G. G., Mobile

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Blountsville Springs Butler: H. P. Speir, Greenville Calhoun: J. F. Posey, Anniston; J. D. Rayfield, Jacksonville Chambers: E. A. Henderson, Fairfax

Cherokee: W. J. Campbell, Cen- Escambia: W. L. ter; S. C. Tatum, Center Chilton: W. C. Golden, Clanton; C. O. Lawrence, Clanton Choctaw: T. M. Littlepage, Butler; S. T. Miller, Yantley Clarke: R. D. Neal, Grove Hill Clay: L. G. Cole, Ashland; J. W. Franklin: Price Clayton, Rus-Jordan, Ashland Cleburne: J. L. Dorough, Hef- Geneva: C. P. Gay, Geneva lin; F. R. Wood, Heflin Coffee: E. G. Bragg, Jack; G. L. Houston: H. B. Burdeshaw, Do-Weidner, Elba than; W. H. Turner, Dothan Morgan: T. M. Guyton, Decatur Colbert: W. R. Trapp, Tuscum- Jackson: Julian Hodges, Scotts- Perry: T. J. Jones, Marion bia; R. D. Wright, Leighton Conecuh: E. L. Kelly, Evergreen Jefferson: T. M. Boulware, Bir-Covington: W. D. Lyon; Andalusia; E. A. Ray, Andalusia Crenshaw: J. W. Davidson, Brantley; F. J. Lee, Luverne Cullman: R. B. Dodson, Cullman; F. C. Stitt, Cullman Dale: A. D. Matthews, Ozark; R. D. Reynolds, Ozark Dallas: W. F. Harper, Selma; K. Lowndes: W. E. Lee, Ft. Deposit Walker: J. C. Gladney, Jasper; E. Luckie, Selma DeKalb: J. E. Buzbee, Ft. Payne Madison: M. M. Duncan, Hunts- Washington: W. J. Blount, Mill-Elmore: C. S. Cotlin, Jr., We-

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Macon: T. F. Long, Notasulga ville; W. F. Jordan, Huntsville tumpka; E. G. Moore, Tallas- Marengo: W. E. Allen, Sweet Winston: J. I. Mitchell, Haley-Water; A. H. Bobo, Demopolis

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Ala. L. B. Troxler, New York City A. Troyani, New Orleans, La. Lt. Abraham Ulin, Maxwell Field, Ala.

W. J. B. Vickers, Alexander City H. A. Walker, Atlanta, Ga. Aubrey White, St. Louis, Mo. C. G. Williams, Teaneck, N. J. J. F. Wood, Lexington, Ky.

SUMMARY OF ANNUAL ATTENDANCE

Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place	Year	Life Counsellors	Active Counsellors	Delegates	Members	Visitors	Total	Place
1915	32	74	108	429	49		Birmingham	1930		83	106	286	102		Montgomery
1916	19	66	92	106	41		Mobile	1931	26	80	116	410	158		Birmingham
1917	18	64	96	199	32		Montgomery	1932		60	101	158	133		Mobile
1918	27	63	80	257	44		Birmingham	1933		74	103	264	85	547	Montgomery
1919	22	43	87	94	102	348	Mobile	1934		75	97	404	53		Birmingham
1920	16	61	59	85	51		Anniston	1935		59	91	180	83		Mobile
1921	26	65	73	183	58		Montgomery	1936		79	95	265	68	530	Montgomery
1922	26	72	76	314	68	556	Birmingham	1937	25	80	96	396	81		Birmingham
1923	14	48	66	106	50		Mobile	1938	1 - 1	65	78	157	63		Mobile
1924	29	70	84	230	79	492	Montgomery	1939	29	79	96	326	84	614	Montgomery
1925	27	78	97	328	113	643	Birmingham	1940		77	105	401	229		Birmingham
1926	33	74	105	194	131		Mobile	1941	29	66	86	211	91		Mobile
1927	36	85	104	252	87	564	Montgomery	1942	33	75'	105	249	82	544	Montgomery
1928	33	77	108	507	106		Birmingham	1943	31	71	83	321	127	633	Birmingham
1929	19	60	102	176	109	466	Mobile	1944	33	72	92	214	110	521	Montgomery

SAYS VETERANS' REHABILITATION SUS-CEPTIBLE OF LOCAL TREATMENT

A. M. A. JOURNAL DECLARES IT SHOULD NOT BE RELEGATED ENTIRELY TO FEDERAL-STATE AGENCIES; SHOULD BE PLANNED NOW

Rehabilitation of members of our armed forces, The Journal of the American Medical Association for May 27 declares, should be regarded as susceptible of local treatment, not relegated entirely to federal-state agencies.

It is pointed out by The Journal that "The Council on Industrial Health and the Council on Physical Therapy (of the Association) have set up a joint committee on rehabilitation. This committee believes that rehabilitation is essentially a medical problem, that the American Medical Association should notify the profession of legislative proposals in this field and see to it that physicians are in a position to participate effectively in current plans. There will likely be considerable dependence on the profession, both in general and special practice, to carry cut the medical aspects of the federal-state program now in formulation. Practitioners should therefore be in possession of as many details as possible, regarding both state administrative organization and the special facilities necessary for adequate diagnosis and successful case management."

In the intrdouction to its editorial, The Journal says:

"Perhaps as many as a million soldiers, sailors and marines will be discharged from our armed forces during 1944. Many of them will be casualties of battle; many more will, no doubt, have been found unequal to the rigorous physical and disciplinary demands of military life. Fortunately a good share of the men in both of these classifications can be reabsorbed into industrial or other employment without serious difficulty. In many cases the restoration of a seriously handicapped man or woman to civil life will call for the best type of cooperation between physician, vocational educator and rehabilitation case worker. Rehabilitation and reemployment are important immediate problems not to be relegated to nebulous planning. Moreover, the need for such service is certain to grow as the intensity of war increases.

"The rehabilitation of veterans is a specific responsibility of the Army, Navy and Veterans Administration, so assigned by law. Briefly, intensive treatment in military hospitals determines whether disabilities are recoverable and hence suitable to eventual return to duty. Serious handicaps receive special attention in designated hospitals where social adjustment and training go hand in hand with medical care. These patients when sufficiently recovered are discharged from the Army or Navy. Then the Veterans Administration provides vocational training and employment, provided the disability is service connected, that the person is honorably discharged and that rehabilitation is needed to overcome the handicap.

"The expanding vocational rehabilitation program of the Federal Security Agency makes it doubly certain that private physicians will be keenly conscious of reconstruction and placement of the handicapped in employment. Under this program federal aid is provided to enable state boards of vocational education and state agencies for the blind to furnish disabled persons with all services necessary to render them employable or more advantageously employable. These services include medical and surgical care, hospitalization, physical and occupational therapy, prosthetic appliances, vocational counseling and training, maintenance during training, occupational tools and equipment, and placement in employment. Except for certain groups of war-disabled civilians and federal employees injured in line of duty, persons receiving physical restoration services or maintenance grants must be in financial need.

"The federal Office of Vocational Rehabilitation is responsible for establishing standards in the various areas of service, for technical assistance to the states and for certification of funds upon the approval of state plans for vocational rehabilitation meeting the requirements of the authorizing Act of Congress. A national professional advisory committee, composed of representatives of fields of medicine actively concerned with rehabilitation, of hospital administration, public health nursing, medical social work, physical therapy and occupational therapy, has been appointed by the Federal Security Administrator to assist the

Office of Vocational Rehabilitation in the technical phases of physical restoration services. Similar advisory committees will be appointed by all state rehabilitation agencies to guide them in establishing and maintaining professional standards for physical restoration. Further information can be obtained from the state boards of vocational education, state agencies for the blind or from the Office of Vocational Rehabilitation, Federal Security Agency, Washington 25, D. C.

"There is growing realization in industry that handicapped persons are more often assets to a plant than otherwise. There is mounting evidence that they are absent less, that they have fewer accidents and that both the quality and the quantity of production compare favorably with those of normal co-workers. It is not what the man has lost but what he has left that establishes his value in a specific job. Industrial physicians long have realized that after medical treatment has minimized a disability the most important factor in successful rehabilitation is selective placement, matching physical ability with specific job requirements.

"Rehabilitation should be regarded as susceptible of local treatment, not relegated entirely to federal-state agencies. The Marathon County Medical Society in Wisconsin has recognized that preplacement examinations are essential before a handicapped person is employed. This county society has agreed to examine returning veterans without charge and to recommend to employers that placement occur wherever the veteran can work effectively and safely—safely to himself, to his co-workers and to the public. Placement certificates will be furnished each veteran and prospective employers urged to utilize the services of these men to maximum capacity. In Peoria, Ill., a community plan has been developed which searches out the handicapped, takes a census of job opportunities and brings the candidate and job opportunity together. A high degree of coordination has been developed between local government, professional groups, industry, labor, health agencies, service clubs, veterans' organizations and other interested civic groups. . . ."

CANCER AND ACCIDENTAL INJURY

Court decisions "that single accidental injuries have caused cancer or can cause cancer should be appealed to tribunals which will give the problems involved adequate competent attention in the light of present knowledge," The Journal of the American Medical Association for May 27 advises in an editorial which points out that the theory that cancer can be caused by a single accidental injury is not supported by prevailing scientific knowledge of the cause of cancer. The Journal says:

"Under workmen's compensation acts cases involving cancer fall in two groups, one in which the injury is claimed to have caused the cancer and one in which it is claimed that the injury aggravated cancer existing before the injury.

"In respect to the first group, the law appears to be that where 'a normal healthy individual receives an injury by accident in the course of and arising out of his employment and thereafter his health steadily declines and a cancerous condition in the vicinity thereafter causes the (disability or) death of the employee, the causal connection between the injury and the cancer is established and the (disability or) death is compensable under the workmen's compensation act, on the theory that the cancer was caused by such injury.' To prove that the cancer is an 'accidental injury' the following four elements must be present: serious injury or strain, physical connection between the injury or death, proper lapse of time between the injury and the disability or death, and freedom on the part of the employee from cancer at the time of the injury. . . .

"The theory that cancer can be caused by a single accidental injury is not supported by prevailing scientific knowledge of the causation of cancer. Its only support would seem to be the fallacy of 'post hoc ergo propter hoc.' Unfortunately, legal authorities are willing to accept such crude reasoning as if it solved the cancer problem. In spite of the humanitarian intent of the declaration that a single accidental injury can cause cancer, justice has not been done and the public is receiving a wrong impression in regard to the cause of cancer. . . ."

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THE JOURNAL OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Volume 13

July 1943-June 1944

EXPLANATORY NOTES

Arrangement of Index

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- V. Transactions of the Association
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Miscellany

SUGGESTS USING RED BLOOD CELL TRANSFUSIONS FOR ANEMIA CASES

"Red cell transfusions are a satisfactory substitute for whole blood transfusions in the treatment of anemia," Howard L. Alt, M. D., Chicago, reports in The Journal of the American Medical Association for June 12. He says that a patient with progressive anemia that did not yield to regular treatment has been sustained for a year with transfusions of red blood cells suspended in a solution of sodium chloride.

This means of treating anemia is particularly significant at this time because of the widespread use of blood plasma (the liquid portion of the blood) in the preparation of which the red cells are a by-product. As Dr. Alt points out, this makes it possible to give blood cell transfusions in larger amounts and more frequently than heretofore has been the practice with whole blood.

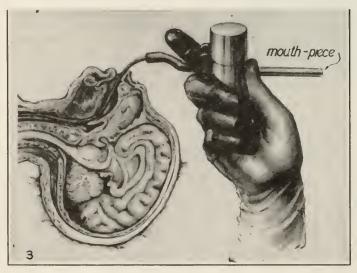
"The main value of red cell transfusions," he explains, "is to increase the erythrocyte (red cell) count in patients with anemia. After severe hemorrhage, spontaneous recovery of the anemia takes about six weeks or longer. In such a case the daily administration of red cells from a liter of blood will bring the erythrocyte count to normal within a few days. If cells could be made avail-

able to the armed forces, it would materially hasten the rehabilitation of wounded men who have suffered from hemorrhage. In patients with severe iron deficiency, the hemoglobin value can be raised rapidly with red cell transfusions. During the gradual destruction of the transfused cells, iron is released for further hemoglobin formation. Red cell transfusions are also effective in other types of anemia. Their use in progressive refractory anemia has already been emphasized.

"The chief advantage of transfusions with red cell suspensions over whole blood is the factor of economy. With the widespread use of plasma, great quantities of red cells will continue to be a by-product. Should red cell transfusions come into common use, it will be possible to divide the cost of whole blood between the plasma and the cells. If and when red cell suspensions become generally available at a low cost, it is rational that they should be used in larger amounts and more frequently in the treatment of anemia than whole blood is used at the present time."

Dr. Alt points out that red cells were used for transfusion purposes during the first world war, but that only recently has much attention been given to this procedure. He says that for patients with a temporary type of anemia the cells can be stored for five to seven days before being used, explaining that "it has been shown that the survival time of transfused erythrocytes in stored whole blood decreases rapidly after a storage period of more than seven days. The saline solution is added to decrease the viscosity of the blood and consequently to facilitate the flow through the transfusion system."

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Miscellany

BACTERIAL WARFARE IMPRACTICAL, JOURNAL OF A. M. A. POINTS OUT

EXPRESSES HOPE PAPER ON SUBJECT BY COL. LEON A. FOX WILL BE AS WIDELY QUOTED BY THE PRESS AS OPPOSITE STORIES

In an editorial discussing a paper by Col. Leon A. Fox of the U. S. Army Medical Corps in which it is pointed out that there are practically insurmountable technical difficulties preventing the utilization of bacterial warfare, The Journal of the American Medical Association for July 17 says that "It is hoped that Colonel Fox's paper will be as widely quoted in the popular press as have been the numerous frightening hypotheses that it contradicts." The Journal editorial follows:

"The Geneva Disarmament Conference of 1932 considered bacterial warfare serious enough to prohibit its use. This action contributed to the popular fear of pathogenic micro-organisms as effective military weapons. To allay this fear come two timely reprintings of the classic paper by Col. Leon A. Fox of the U.S. Army Medical Corps, which summarize the current opinion of military experts.

"Threatened introduction of new weapons or methods of warfare has often had to overcome opposition based on ethical, religious or humanitarian grounds. The early use of gun powder had to overcome opposition of this type. Military history, however, teaches that a weapon has never been abandoned for such reasons unless displaced by more effective weapons or until adequate countermeasures have been developed. Military history also reveals that epidemics were often the determining factor in past wars. In many campaigns contagious diseases caused such great loss of life and such large numbers of noneffectives on both sides as to lead to a stalemate. In other campaigns great differences in the degree to which the two



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opposing armies reacted to such epidemics occurred.

"The major military pests of the past have been the enteric fevers, typhus, bubonic plague and smallpox, with influenza, the pneumonias, malaria, measles, meningitis and syphilis playing a minor role. Popularly it is often assumed that these diseases would be particularly effective military weapons. However, fully virulent causative agents cannot be prepared in large quantities and cannot be introduced in adequate doses into the bodies of unprotected and non-immunized enemy populations. The essential problem of bacterial warfare from an offensive point of view is therefore the problem of mass production of military pathogens and of devising safe and effective methods of inoculating the enemy. The whole group of enteric infections, for example, could probably never be successfully used as instruments of warfare. Real epidemics of these diseases are traceable only to infected drinking water. While contamination of reservoirs and municipal storage tanks is militarily feasible, such contamination would be largely ineffective because of routine filtration or chlorination methods. Modern sanitary methods, therefore, should be adequate countermeasures against this type of bacterial warfare.

"Among the respiratory infections, a number of maladies are serious enough to be effective if ways of using them can be devised. The two diseases of this group most frequently mentioned are influenza and meningitis. In neither disease could the infective agent be prepared in sufficient quantities, virulence or stability for military use. The meningococcus, for example, is so delicate that it rapidly dies when exposed for even a few hours to temperature much below that

of the human body. The only feasible methods of introducing meningitis into opposite forces would be by human carriers. This would be hardly worth while, since any military aggregation of great size already has so many meningitis carriers (anywhere from 2 to 30 per cent) that the introduction of a few more carriers would be of little moment.

"The use of insect borne diseases has also been repeatedly mentioned in the press, bubonic plague being the most frightful example. Possibly airplanes flying low could drop recently infected rats on opponent terrains. Even this, however, would probably not start an epidemic. Plague has been more or less endemic as a rodent disease on our own Pacific Coast for over a generation, yet there have been no local human cases in this region sufficiently numerous to be designated as epidemic. Only 6 cases of plague developed in 1924 among European troops stationed in the Punjab, in spite of the fact that 500,000 cases developed in the indigenous population. Typhus also would be ineffective, since control of typhus is a question of louse control.

"Tetanus, gas gangrene and anthrax have been suggested as particularly effective military pathogens, since they are caused by resistant, spore forming bacteria capable of prolonged periods of viability without loss of virulence outside the animal body. These micro-organisms, however, do not produce epidemics even though they are of military interest as wound invaders. Effective methods of preventing and treating wound infections have been developed. Since wound invaders are omnipresent in nature, the indiscriminate distribution of a few additional wound invaders would not add appreciably to the present dangers of combat.

(Continued on page 13)



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"One of the commonest scares concerns dissemination of 'deadly bacterial toxins,' of which botulinus toxin seems to be the pseudoscientific favorite. True, 'an airplane can carry sufficient (botulinus) toxin to destroy an entire city,' provided a carefully measured lethal dose of this toxin is administered orally, subcutaneously or intrarectally to each inhabitant of that city. The release of food materials, contaminated with tremendous amounts of this toxin might conceivably cause a wholesale local destruction of rodents and sparrows. At most the number of human casualties would be negligible. Bacterial toxins like bacteria are readily destroyed by heat and are therefore inactivated by cooking. They are wholly unsuited for use in shrapnel or other proiectiles.

"Bacterial warfare is often extended in popular literature to include the use of boll weevils, corn borers and other agricultural pests. Most of these pests, however, take several years to propagate and invade a sufficient terrain to be effective economically. This would violate one of the fundamental laws of military science, since it might merely interfere with postwar economics, reducing the ability of a conquered nation to pay indemnities.

"Summarizing his argument, Colonel Fox concludes that there are 'practically insurmountable technical difficulties preventing the use of biological agents as effective weapons of warfare.' In this he confirms the previous opinion of numerous German bacteriologists, who, five years before the first world war, were assigned the task of suggesting safe and effective weapons of bacterial warfare. Ehrlich, for example, replied that 'nothing (he) could suggest would be of more than a nuisance value to the enemy and might even be a source of danger to our own troops.'"

BELIEVE MANY STERILITY CASES DUE TO TUBERCULOSIS OF WOMB

PALESTINE INVESTIGATORS FOUND 10 PER CENT OF STERILE, OTHERWISE HEALTHY, WOMEN UNSUSPECTEDLY HAD THE DISEASE

"On the basis of our results we have every reason to believe that many women with no obvious cause for their sterility suffer from latent genital tuberculosis," E. Rabau, M. D.; I. Halbrecht, M. D., and J. Casper, M. D.,

Petah-Tiqua, Palestine, declare in the July 17 issue of The Journal of the American Medical Association.

Their findings are based on studies of 208 sterile women. "We have found," they report, "tuberculous endometritis in about 10 per cent of our cases. But it is quite possible that in more than 10 per cent a latent genital tuberculosis was present and could have been proved if we had at our disposal other diagnostic methods than strip curettage. . ."

Their investigation was made by studying small samples of the membrane lining of the womb, obtained by means of a scraper or spoon, known as a curet.

They found 20 cases of tuberculous endometritis. In none of these cases had tuberculosis previously been suspected. Subsequent clinical and x-ray examinations failed to disclose any sign of active tuberculosis elsewhere in any of the women. The three physicians say in an addendum to their report that they later have found 9 more cases of tuberculosis endometritis.

"Tuberculous endometritis," they say, "is only seldom thought of. As a rule it is found only by chance. . ."

RECENT AMENDMENTS TO FOOD RATION-ING MEET NEW NEEDS

Recent amendments to food rationing orders, involving osteopaths, condensed milk, fats, oils and hospitals, are summarized in The Journal of the American Medical Association for July 17 as follows:

The Office of Price Administration announced on July 2 that any medical practitioner authorized by the state in which he practices to prescribe all internal drugs is also authorized to certify that a person requires supplementary food rations for health reasons. Authority to make such certification was previously confined to doctors of medicine. OPA has now broadened the authority so that osteopaths in states which license osteopaths to prescribe all internal drugs may also prescribe supplementary food rations. Food rationing regulations provide that a person whose health requires more rationed food than his ration points permit him to buy may apply to his local board for necessary additional points. In some illnesses foods are prescribed in addi-

(Continued on page 15)

EDEMA DURATION

due to the varying methods of cigarette manufacture
(as shown by rabbit-eye test*)



Upon instillation of smoke solution from Philip Morris Cigarettes

Average duration 8 MINUTES



Upon instillation of smoke solution from cigarettes made by the Ordinary Method

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CLINICAL CONFIRMATION:**

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*Proc. Soc. Exp. Bio. and Med., 1934, 32, 241-245 ** Laryngoscope, 1935, XLV, No. 2, 149-154

tion to drugs or medicines, or as a substitute for them. In some counties the work of ration boards in processing such applications has been much simplified through the voluntary help of the doctors themselves. By establishing panels to review all medical certifications and to advise the boards, responsibility for issuing extra rations for health reasons has been kept on a professional level.

The Office of Price Administration under date of June 1 placed evaporated and condensed milk on the list of rationed products. These types of milk are added to the group of rationed foods containing meats and fats, for which red ration stamps are needed, without any increase in the total number of points allowed for this group. One point is required for one 14½ ounce can or for two 6 ounce cans or for two 8 ounce cans. This means that the child may use 7 of his 16 points per week for his milk requirements in terms of evaporated milk, which allows slightly less than the equivalent of a quart of whole milk per day, and have 9 points remaining for his meat and fat require.ments. An invalid or any other person whose health requires that he have more canned milk than he can obtain with the stamps in his War Ration Book II may apply at his local War Price and Rationing Board for additional points. The consumer must submit a written statement of a licensed physician showing why he must have more canned milk, the amount needed during the succeeding two months and why unrationed foods cannot be used instead. A supplemental allotment to acquire canned evaporated and condensed milk needed by a hospital to meet the dietary needs of its patients may be obtained on application to its local War Price and Rationing Board. It is understood that, if the present method of rationing does not make evaporated milk available in all areas for infants and children, some more effective method will be worked out.

The Office of Price Administration has issued an amendment to ration order number 16 (R. O. 16, amendment 25) which permits the use of rationed fats and oils for external therapeutic purposes. This includes the use of vegetable oils, such as cottonseed oil, for bathing newborn infants, for external application in skin diseases, for urethral injection or lubrication of urethral instruments,

and for x-ray visualization. Such use of rationed fats and oils is defined as "industrial consumption" and persons using these products for such purposes are classified as "industrial consumers." An industrial consumer engaged in the care and treatment of the sick and needing rationed fats and oils for this purpose may apply to his district Office of Price Administration for a certificate with which to acquire them. The procedure to be followed, briefly, is as follows: The application should be made on form R-1605 to the district office. If the applicant is a hospital the district office will pass on the application by using the same method of computing allowances as the local boards use in computing allotments for industrial users; otherwise the application will be forwarded to the Washington office for action. If the applicant requires more than he would receive by the method of computation described, he should also submit form R-315 stating the reasons for such request. An "industrial consumer" to whom a certificate is issued for "industrial consumption" of rationed fats and oils may use it only to acquire the foods for which application was made and may use those foods only for the purpose for which the application was granted.

For several months the Office of Price Administration and medical authorities have been studying the hospital problem with a view to developing a uniform procedure covering the granting of supplemental allotments for hospitals. Solution of the problem is believed near. In the meantime a provision in the regulations (section 11.6 of general ration order 5) should enable hospitals to obtain the necessary supplemental allotments so that patients need not suffer from dietary deficiency. This provision gives local boards authority to grant such allotments to meet the dietary requirements of patients living in and receiving care in hospitals whether or not such patients are on special diets. In determining the amount of the supplemental allotment of processed foods and the commodities covered by ration order 16, the local board will take into consideration the availability of fresh fruits and vegetables, unrationed substitutions such as poultry and fresh fish, and the physical facilities of hospitals to process and store such foods.

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Miscellany

ARMED FORCES MUST HAVE 6,000 MORE PHYSICIANS BY JANUARY 1

JOURNAL OF A. M. A. CALLS ON THE PROFESSION TO FULLY MEET THE RESPONSIBILITY THAT HAS BEEN PLACED ON IT

The armed forces must have 6,000 additional physicians by Jan. 1, 1944, The Journal of the American Medical Association reports in an editorial in its August 7 issue. The Journal says:

"At a conference of the Directing Board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians, held on July 31, with the War Participation Committee of the American Medical Association and in the presence of Mr. Paul V. McNutt, chairman of the War Manpower Commission and representatives of the Army and Navy medical departments and the Public Health Service, it became apparent that the medical profession must produce toward the winning of the war an additional six thousand physicians for the armed forces before Jan. 1, 1944. Pursuant to a realization of this objective a directive has gone to the generals in command of the various service commands authorizing them to induct into the service physicians between the ages of 38 and 45 who have been declared available by the Directing Board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians and who are otherwise subject to Selective Service.

"The needs of the armed forces are real. The members of the War Participation Com. mittee raised with the representatives of the various governmental agencies all the questions that have from time to time challenged the need; the challenge seems to have been met effectively. Indeed, the intimation was made clear that the needs of the armed forces will be met by specific regulations of the Selective Service Administration or the enactment of necessary legislation if required. All physicians up to 45 years of age who have been indicated as available have therefore placed on them now the responsibility for an immediate decision as to their enlistment with the armed forces. The need is so positive that questions of essentiality of men in positions of teaching and research and in industrial medicine are likely to be rigidly reviewed in the near future with a view to extracting from civilian life every one that can be spared.

"As the war continues and intensifies new needs for the services of the medical profession become apparent. An army in motion and one engaged in the kind of aggressive combat that now concerns our armed forces needs physicians in even greater numbers than have heretofore been demanded. Many thousands of interned aliens and prisoners are now the burden of the United States and must be given medical care.

"If there is any physician who still hesitates under these circumstances, he should realize the added advantage to him of accepting now the commission that is proffered. Should it become necessary in the near future, as seems quite likely, to enlist new activity by the Selective Service Administration and the Officers' Procurement Service to bring in the six thousand physicians that are so certainly required, those recruited by that technic will inevitably begin their service with the minimum commission that is offered, namely that of first lieutenant. Until that technic is installed, the men of special competence and of years beyond those of the recent graduate have the assurance of careful consideration and a commission more nearly in accord with age and experience.

"The call here made has the approval of the Directing Board of the Procurement and Assignment Service and of the War Participation Committee of the American Medical Association. The medical profession may well be proud of the fact that it has been the only group given, by directive of the President, the responsibility of maintaining service in civilian life and at the same time supplying the needs of the armed forces. Let us not fail in meeting fully the trust that has been placed upon us."

EVEN IF LEGAL, ADDITION OF VITAMINS TO WHISKY WOULD BE UNDESIRABLE

"Even if it should become legal to add vitamins to alcoholic beverages, physiologic considerations would incline to make such formulas undesirable," The Journal of the American Medical Association for August 7 says in reference to the stability of vitamins in whisky.

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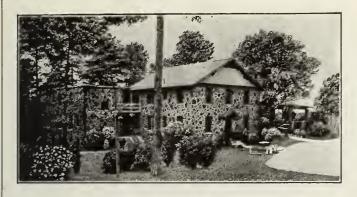
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Miscellany

STUDIES INDICATE PROSTIGMINE MAY BE OF VALUE IN TREATING POLIOMYELITIS

Preliminary studies of the use of prostigmine as an adjunct in the treatment of infantile paralysis suggest that it has important effects on the spinal cord in man which appear to be of value in the treatment of the disease, Herman Kabat, M. D., Ph.D., and Miland E. Knapp, M. D., Minneapolis, report in The Journal of the American Medical Association for August 7. Prostigmine is a drug known for its stimulating action on muscles.

Drs. Kabat and Knapp say that in their studies "The approach to therapy (treatment) has been based on the (Sister Elizabeth) Kenny concept of the disease. In a series of 20 patients, most of whom were in the subacute stage of the disease, the results have been encouraging. The drug significantly increased the range of passive motion (of involved muscles), decreased or eliminated deformities in some instances by relaxation of hypertonus (muscular rigidity) and in some cases improved active motion. In a number of instances muscle spasm has shown more rapid improvement when prostigmine was added to the Kenny routine. In a majority of cases the drug appeared to accelerate recovery."

The 20 patients were given the drug by injection beneath the skin, by mouth or by both routes as an adjunct in treatment. "In almost all cases," the two physicians say, "hot foments were continued throughout the period of prostigmine administration. . . . Seventeen of the patients were in subacute stages of the disease, ranging from two to six months following the onset. There were 2 patients with acute poliomyelitis at three to four weeks after onset and 1 with chronic poliomyelitis at sixteen months after onset.

"The improvement following prostigmine was clearly demonstrable in many subacute cases despite the continuation of the other forms of therapy. The acute cases showed improvement immediately after initiation of prostigmine therapy that was apparently more rapid than the improvement usually noted in such cases with hot foments alone. However, this is difficult to evaluate since the patients were progressing satisfactorily with the hot foments. A large series of acute cases will be necessary to establish the value of prostigmine. The 1 case studied sixteen months after the onset showed definite improvement, but more such cases must be investigated before one can say that prostigmine is of value in the chronic stage. . . .

"It is difficult to evaluate the improvement resulting from therapy in poliomyelitis. The disease is variable in the distribution and severity of involvement as well as in its course. Therefore it is often a problem to predict accurately the rapidity of recovery that would have ensued had treatment not been given. An additional variable was introduced in this investigation by the fact that hot foments were continued during the period of prostigmine therapy. In several cases rapid progress was seen with prostigmine, although the hot foments were discontinued during this period."

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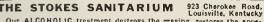
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A. M. A. JOURNAL ANALYZES WAGNER-MURRAY-DINGELL BILL

DECLARES IN EDITORIAL THE MEASURE PROPOSES A COMPLETE REVOLUTION OF THE PRACTICE OF MEDICINE IN THE UNITED STATES

"The Wagner-Murray-Dingell Bill proposes a complete revolution of medical practice in the United States," The Journal of the American Medical Association declares in an editorial in its October 16 issue. "Nearly every institution concerned in the prevention, diagnosis and treatment of disease would have to modify its method of rendering service. The type of medical education and research and the administration of hospitals would be grossly altered. The immediate results of revolution are almost always destructive. For several years the institutions that protect and maintain the health of the American citizens would certainly be so disrupted as to make the efficient performance of their functions for the protection of the health of the American people almost impossible.

"Is our situation today so desperate as to call for so radical a remedy? Medicine never hesitates to use radical measures when required in desperate situations. Do present conditions indicate defeat in the battle against death and disease? The reverse is true, according to reliable vital statistics. Never was the general death rate lower or falling more rapidly in relation to all the conditions that affect that rate than now. The infant death rate, accepted throughout the world as the most accurate measure of public health, is lower in the United States today than in almost any other country in the world. Although this decline has continued for many years and therefore might

be expected to be approaching a minimum, it has shown an accelerated fall in recent years. Life expectation is greater here than in almost any other country and definitely longer than in any having systems of compulsory sickness insurance. The recent phenomenally rapid increase in the birth rate in recent years, which has always hitherto been accompanied by an increase in maternal infant death rates, has been accompanied by a decline in these rates in the United States.

"The public health movement is certainly not declining in scope or efficiency. Public health departments, which almost invariably owe their origin and protection from the corrupting influence of politics to the activity of physicians either singly or in organizations, have now attained a momentum which is carrying their work into every community. The constant watchfulness of the medical profession has secured the administration of increasing numbers of these departments by competent trained personnel and strengthened their power to protect the public against disease.

"The claim that American hospitals are in general best equipped of any in the world cannot be challenged. They are the models admired by other nations. Medical education, which at the beginning of the century was considered in many of its aspects disgraceful, has, thanks almost exclusively to the active supervision of the medical profession in the United States, attained world leadership.

"These are not the conditions that call for revolutionary activity. Every phase of medical development in this country testifies to the soundness of the progress that has been made and indicates the desirability of continuing evolution."



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SAYS THERE IS NO JUSTIFICATION FOR USE OF MINERAL OIL IN FOOD

A. M. A. COUNCIL DECLARES POSSIBLE HARMFUL EFFECTS JUSTIFY CONCLUSION ITS USE IS NOT IN INTERESTS OF GOOD NUTRITION

On the basis of medical reports showing the harmful effects that may result from the ingestion of mineral oil (liquid petrolatum), "there can be no justification for the incorporation of liquid petrolatum in foods," the Council on Foods and Nutrition of the American Medical Association declares in a report in the December 11 issue of The Journal of the Association.

"It has been shown," the report continues, "that the ingestion of liquid petrolatum is capable of interfering seriously with the absorption of carotene (a yellow pigment found in certain foods which may be converted into vitamin A in the body), vitamin D, calcium and phosphorus and vitamin K. The effects of its prolonged use have not been thoroughly investigated, but there is sufficient evidence of possible harmful effects to justify the conclusion that its indiscriminate use in foods or in cooking is not in the interests of good nutrition and any such use should be under careful supervision of a physician.

"The Council previously has accepted, with a special requirement that the prod-

ucts be promoted for use only under the direction of a physician, salad dressing or imitation mayonnaise containing mineral oil, for use in therapeutic (treatment) diets. In view of the abuses which have developed through the production and sale of food products containing mineral oil to the public, the impracticability of providing suitable and adequate warning of the possible harmfulness of such preparations, and the fact that physicians wishing patients to use such products readily can supply directions for their preparation on a small scale from liquid petrolatum and other ingredients, the Council has voted, on the basis of the evidence reviewed in the present report, to withdraw its acceptance of these products."

The Council points out that there are conflicting views regarding the effect of mineral oil per se on the alimentary tract (the canal or passage from the mouth to the anus). Many physicians consider mineral oil preparations the laxative of choice. "It is probable," the Council says, "that under medical supervision mineral oil can be properly used, but the ease of obtaining the preparations as well as other laxative drugs readily leads to abuse. Proctologists (specialists in diseases of the rectum) have experienced difficulty in visualizing the wall of the rectum because of an adhering film of oil in persons who take liquid petrolatum. The seepage of mineral oil is well known to be one of the discomforts that may attend the use of this substance. J. W. Morgan has written forcefully about the need of caution in the use of liquid petrolatum. He has mentioned a syndrome (a set of symptoms occurring together) to which he has ascribed the term 'mineral oil poisoning' which may result from its continual oral administration."

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SAY TREATMENT OF HIGHLY FATAL HEART DISEASE SEEMS PROMISING

COMBINED USE OF PENICILLIN AND HEPARIN FOR SUBACUTE BACTERIAL ENDOCARDITIS APPARENTLY SUCCESSFUL, 4 MEN SAY

The apparently successful treatment by use of penicillin in conjunction with heparin, an anticoagulant, of 7 patients with subacute bacterial endocarditis, a condition almost invariably fatal, is reported by Leo Loewe, M. D., Philip Rosenblatt, M. D., Harry J. Greene, M. D., and Mortimer Russell, Brooklyn, in The Journal of the American Medical Association for January 15.

"Further observation will be required to determine the permanence of results, but the immediate effects suggest uniformly successful sterilization of the blood and relief of clinical manifestations," the four men say.

The penicillin was given in requisite dosage by the method of the continuous intravenous drip but 1 patient also received it by injection into a muscle.

Heparin was deposited beneath the skin in most instances but occasionally was given by injection into a vein.

Six of the 7 patients suffered from a bacterial endocarditis that was engrafted on a chronic rheumatic inflammation of a valve of the heart (valvulitis), and the other had a congenital heart defect. In 5 of the 7 patients the organism causing the condition was a Streptococcus viridans; the sixth patient had a hemolytic streptococcus and the seventh a pneumococcus type 27.

In a few of the patients the efficacy of the therapy may have been enhanced by the preliminary use of sulfonamide (given to all 7 patients).

"In experimental thrombotic bacterial endocarditis," the authors explain, "the disappearance of vegetations requires the use of a suitable chemotherapeutic agent and an anticoagulant. The clinical application of this principle in subacute bacterial endocarditis has been disappointing; the technics of therapy are cumbersome, the toxicity of treatment has been excessive even for an otherwise fatal disease and the successes

have been few and irregular. Early efforts made with sulfonamides, with or without heparin, have been mostly abandoned. The introduction of penicillin proved equally disappointing; the commission appointed by the National Research Council has already reported unfavorably and discouraged the use of the at present inadequate supply of the drug for the treatment of viridans endocarditis. . . ."

In the same issue of The Journal Louis N. Katz, M. D., Chicago, and Captain Stephen R. Elek, M. C., A. U. S., report that "In 4 cases of combined heparin and chemotherapy, either sulfonamides or sulfonamides and intensive arsenotherapy in the treatment of subacute bacterial endocarditis due to Streptococcus viridans, the results were entirely negative, no evidence of clinical recovery being seen. . . . In view of this experience and that of others reported in the literature, it is concluded that the further use of heparin in subacute bacterial endocarditis should be abandoned."

SAYS MEDICAL REVOLUTION IS NOT NEED-ED TO REMEDY MALDISTRIBUTION OF DOCTORS

The maldistribution of physicians during the next few years, indicated in a survey made recently by two officers of the United State Public Health Service, need not necessarily require a revolution in medical education or practice for its correction, The Journal of the American Medical Association for January 15 says, adding that improved hospital and laboratory facilities may produce the desired salutary effect. The Journal says:

"The effect of the war on the distribution of physicians has recently been discussed by G. St. J. Perrott and B. M. Davis. These investigators of the United States Public Health Service report a survey of the changes in the medical manpower picture. Moreover, they attempt an estimate of the changes to take place during the next few years.

"The war has withdrawn about one third of the active practitioners of medicine in the United States. The rate of decrease in the number of civilian physicians from Jan. 1, 1942 to the present time has been precipi-

(Continued on page 14)



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SAYS MEDICAL REVOLUTION NOT NEEDED

(Continued from page 12)

tous. There were more than 130,000 active private practitioners on Jan. 1, 1942; there will be only about 85,000 at the end of 1943. The recruiting of practicing physicians has already diminished greatly; the armed forces will obtain additional medical officers from among the graduating medical students. The services expect to take 80 per cent of all medical graduates; the number entering civilian practice will no longer fully replace those who die or retire. Consequently Perrott and Davis predict an annual net loss of about 2.100 for the period following Jan. 1, 1944.

"The rate of attrition, the authors predict, will tend to be most severe in the states which were medically poor before the war; these states generally have a high proportion of older graduates and receive an unduly low proportion of new medical graduates. New York, with about 10 per cent of the country's population, receives nearly 18 per cent of the new physicians; Alabama, with about 2 per cent of the population, receives but one third of 1 per cent. Twentyeight states with a combined population of 54,500,000 are expected to have more than 1,-500 persons per physician by Jan. 1, 1944, and seven of these states, with 13,500,000 population, will have more than 2,000. During the past twenty years there has been a trend for the states rich in physicians to become richer and for the states poor in physicians to become poorer, largely because of the preference of new graduates to locate in the states which most encourage medical practice.

"The analysis by these officers of the United States Public Health Service serves to indicate certain aspects of the distribution of physicians, to which attention may well be directed in postwar planning for medical services. The situation described need not necessarily demand a revolution in medical education or medical practice for its correction. Improvement in the supply of hospital and laboratory facilities may promptly have a salutary effect."

NEXT ANNUAL MEETING OF THE ASSOCIATION MONTGOMERY, APRIL 18-20, 1944

SOME OF 1943 MEDICAL ADVANCES ARE OUTLINED BY HYGEIA EDITOR

MEDICAL ATTENTION LAST YEAR WAS FOCUSED PARTICULARLY ON PENICILLIN, ITS USES AND AVAILABILITY, DR. FISHBEIN SAYS

Some of the medical advances in 1943 are outlined by Morris Fishbein, M. D., editor of Hygeia, The Health Magazine, in an editorial in the February issue of Hygeia. Dr. Fishbein says:

"Medical attention in 1943 was focused particularly on penicillin. Limitations on supply made it necessary to restrict the product to the armed forces and to certain experimental studies. For medical uses, penicillin, which is a form of mold, must be grown, dried, standardized and then used, either as a powder directly on wounds or as a solution by injection into the muscles, the blood or the spinal fluid. Penicillin is especially effective in streptococcic, gonococcic and meningococcic infections. Its outstanding use has been its application to persistent infections of the bones in osteomyelitis, particularly of the jaw and the head. Cases of gonorrhea which were resistant to treatment with sulfonamides were successfully treated with penicillin. Announcement was made that penicillin can change a positive Wassermann test in syphilis to negative in a short time. The Wassermann test remained negative in many such cases for several months. The ultimate value will be determined only when postmortem examinations become possible on persons who have been cured of syphilis by this method.

"Especially significant were advances in anesthesia, including spinal anesthesia and the injection of anesthetic substances directly into the blood. Continued development of continuous caudal analgesia in childbirth made possible the report of 10,000 cases with a low incidence of failure and a small number of complications.

"Medical enemy No. 1 in the war is malaria. Investigators continue to search for a new drug capable of preventing malaria, also for even better technics to control the mosquito. An insect repelling bomb was produced and is now available to the forces of the United Nations.

"New investigations show that the sulfonamides are efficient in controlling menin-(Continued on page 17)



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1943 MEDICAL ADVANCES OUTLINED

(Continued from page 14)

gitis, bringing the total number of deaths from 17 for each hundred cases to 3 for each hundred cases in various epidemics. Physicians in one large army camp stopped the spread of an epidemic by giving regular doses of sulfathiazole to all the soldiers who might be exposed to the infection. Deaths from pneumonia in many army camps were less than 1 per cent. In civilian life the number of deaths was reduced from 27 out of each hundred cases to 7 out of each hundred infected. . . . New sulfonamides were developed, including sulfamerazine, which was said to be less toxic than previous forms and which was recommended particularly for use where there might be complications related to the kidney. Research showed that baking soda or sodium bicarbonate taken previous to the giving of the sulfonamide drugs tends to prevent such kidney complications. The sulfonamides were found to be especially effective in the treatment of dysenteries and diarrheas. The most frequently used sulfa drug for general purposes was sulfadiazine. Another derivative of the sulfonamides, called diasone, was advanced for use in tuberculosis, after it was shown that it could successfully control experimental infections with tuberculosis in guinea pigs. . . .

"The venereal disease rates in the Army and Navy were lower than ever before, but they rose considerably among the civilian population, in some areas in association with a rise in juvenile delinquency. By a combination of heat treatment and the sulfonamide drugs, cases of gonorrhea were controlled in from two to three days.

"Experiments in the intensive treatment of syphilis by these technics, by mapharsen alone and by penicillin alone were being conducted in intensive treatment centers set up by the United States Public Health Service. Special attention is given to selection of cases to be given such treatments, since they are known to carry a considerable hazard.

"The most frequent cause of discharge and rejection from the armed forces was neuropsychiatric disturbance, representing as high as 45 per cent of all cases of disability. . . . Continued experiments with shock treatment for various forms of mental derangement or mental depression indicated the chief usefulness of methods was in depression psychosis. Electric shock seemed to be preferable to either insulin or metrazol shock. Experiments continued with the operation on the frontal lobe of the brain lobotomy—as a means of treating mental disease, particularly cases of anxiety or emotional upsets. The electroencephalograph or brain wave machine was applied to the study of epileptics, most of whom had abnormal electroencephalograms. . . .

"Continued studies of the vitamins showed the one most lacking in American diets is thiamine, called vitamin B of the vitamin B complex. This vitamin is developed in the bowel of most persons by the action of intes-

(Continued on page 18)



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1943 MEDICAL ADVANCES OUTLINED

(Continued from page 17)

tinal bacteria. Some people are not able to develop enough thiamine to meet the body's needs. Drugs, like the sulfonamides, will destroy the intestinal germs which create this vitamin for food. Not all mothers provide the same amount of thiamine in their milk. The giving of thiamine to mothers by injection or increase of the vitamin in her diet will cause a rapid increase in the amount of thiamine in the mother's milk....

"In surgery, attention was focused, because of the war, on the treatment of infected wounds and on shock. . . . The sulfonamide drugs are given by mouth and in some instances applied directly to the wounds to lower the rate of serious infection. The mortality among the wounded in this war is less than 3 per cent and in many engagements less than 1 per cent, contrasted with a death rate as high as 7 to 9 per cent in previous wars. The studies made on shock indicate that the administration of plasma

(Continued on page 19)

1943 MEDICAL ADVANCES OUTLINED

(Continued from page 18) was the important life-saving measure. Scientists reversed their views on the treatment of shock by stopping the use of heat in shock and resorting to the use of a simple blanket to prevent chill.

"The attention of experts in nutrition turned away from vitamins and toward minerals and amino acids as essential substances. It was found that only eight out of more than twenty-two amino acids are necessary to maintain the nitrogen required for the health and growth of the human body. The amino acids now considered essential for the health of the human being are isoleucine, leucine, lysine, methionine, threonine, valine, phenylalamine and tryptophan. . . ."

TELLS OF DEVICE WHICH ENABLES ONE-ARMED PERSON TO WASH HAND

INDIANAPOLIS PHYSICIAN SAYS IDEA TO ATTACH TWO RUBBER VACUUM CUPS TO BRUSH WHICH CAN BE USED ANYWHERE

A simple, inexpensive device which enables a one-armed person to wash his hand is described by John R. Brayton, M. D., Indianapolis, in The Journal of the American Medical Association for January 22. "The idea," he says, "is simply to attach two rubber vacuum cups to any brush. As far as I know, this particular use of the vacuum cup is new and I hope the idea will be of value to the unfortunate cripples who need it."

With the vacuum cups in place, the brush can be attached to the back of any wash bowl, thus enabling the user to wash his hand and arm by first placing soap on the brush and then rubbing his wet hand or arm up and down on the brush. The user can carry the brush with him and use it at any time or place.

In his letter to the Editor of The Journal, Dr. Brayton says: "Recently, without thinking, I told a one-armed man who was in my office to wash his hand. He replied 'How would I do it?' Obviously his plight is similar to the plight of many others and there probably will be many more when the casualties of the war come back. I am sending you a brush which I have prepared for the use of this patient. I have never seen or heard of any similar device nor have my friends who have seen it. . . ."



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Miscellany

SAYS COMPULSORY PREPAYMENT MEDI-CAL CARE PLANS INADEQUATE

THEY ARE ANCHORED TO FINANCIAL, POLITICAL CONSIDERATIONS; MEDICAL SOCIETY PLANS TO GOOD CARE, JOURNAL DECLARES

Compulsory prepayment plans for medical care are anchored to financial, administrative and political considerations, to which the quality of medical service must be made to conform whereas medical society prepayment plans make good medical care the stable element to which all else must be adjusted, The Journal of the American Medical Association for February 12 declares in the fourth of a series of editorials discussing the Wagner-Murray-Dingell Bill. The Journal

"The basic argument for compulsory sickness insurance is the financial one—that the cost is with certainty distributed in time and over a larger body of people. Compulsory sickness insurance, according to such evidence as is available from other countries, inevitably deteriorates the quality of medical service by spreading it more and more thinly to meet the financial resources and polluting it by politics. Admittedly, like all insurance, it spreads the expense of unanticipated illness.

"Can the fundamental objectives spreading expense be attained without compulsion? The House of Delegates of the American Medical Association has repeatedly adopted resolutions encouraging state and county medical societies to organize experimental prepayment plans. Many such plans —at least twenty—several of them statewide, are now in operation or in process of organization. The first was begun about six years ago; now approximately a million members are receiving medical care through such plans.

"Prepayment plans for hospitalization, also endorsed by the House of Delegates, have expanded in a decade to nearly every

state and now include some fifteen million members. Medical society prepayment plans have cooperated with hospital plans as well as with the Farm Security Administration, Social Security, Care of the Indigent, Federal Housing Projects and Industrial Medical Plans. The functioning of these relationships has not always been smooth nor have relations with other agencies been without occasional friction. There have been conflicts, mistakes and disagreements. Those who think that compulsion removes difficulties will be quickly undeceived by a glance at the volumes of legislation, litigation and regulations that have sought to patch defects in compulsory systems. Medical society prepayment plans have also had their administrative and financial difficulties, but at least the prepayment plans under auspices of medical societies seldom permit the medical service to deteriorate in quality. Medical society plans concentrate on the minimum interference with mutual free choice between physician and patient.

"Prepayment plans are still experiments -compulsory no less than voluntary; both are evolving and changing. Compulsory plans are anchored to financial, administrative and political considerations, to which the quality of medical service must be made to conform. Medical society prepayment plans make good medical care the stable element to which all else must be adjusted. Medical society plans grow and develop with the progress of medicine and the health needs of the public. Compulsory plans are imposed by forcible revolution, fixed by law and changeable only through political pressure. The vested interests which they create and protect are those of partisan politics. The health of the public and the progress of medical art and science seem to be secondary to administrative considerations, notwithstanding the protests and iterations of legislators that they are concerned only with the delivery of medical service. Had they been so concerned they would at least have consulted with the medical profession as to possible technics by which the desirable objectives could be secured."

WARNS AGAINST THE INDISCRIMINATE USE OF SULFATHIAZOLE OINTMENTS

The indiscriminate use of sulfathiazole and other sulfonamide ointments "in minor

conditions, when less harmful drugs are adequate, should be discontinued," Roy A. Darke, M. D., Assistant Surgeon, U. S. Public Health Service, New York, declares in The Journal of the American Medical Association for February 12. "With the widespread publicity being given to these preparations," he continues, "it would seem desirable to prevent or discourage their sale except by prescription."

Dr. Darke says that "the recent wide-spread use of sulfathiazole ointment has revealed cases of sulfathiazole sensitivity. My aim in this paper is to call attention to the degree of sensitivity to sulfathiazole ointment existing among the general population. . . "

Reporting on a group of 218 patients who were treated topically with 5 per cent sulfathiazole ointment, he says that sensitivity was found to be present in 12 cases (5.5 per cent). This seems to be in approximate agreement with the findings reported by other investigators, both in the topical and oral administration of the drug.

The permanence of the sensitivity in Dr. Darke's group is not known, he says. The contact dermatitis (skin inflammation) in each case disappeared when the ointment was no longer applied. The healing of the condition being treated, however, seemed to have been definitely slowed.

"Because this sensitivity may preclude the use of the drug in the therapy of such diseases as meningitis, pneumonia and gonorrhea, it is important that sulfathiazole and other sulfonamide preparations be used topically only when a specific need for them can be justified," he advises.

FORTY YEARS OF SERVICE

"This week the Council on Pharmacy and Chemistry of the American Medical Association enters its fortieth year of service to the public and the medical profession," The Journal of the Association for February 12 says. "Since its first meeting on Feb. 11. 1905 the Council has fought continuously for rational therapeutics. It has created much change in the practice of therapeutics. Its activities and decisions are highly respected and are followed internationally by leading medical authorities; its advice is sought frequently by administrative, advisory and ed-



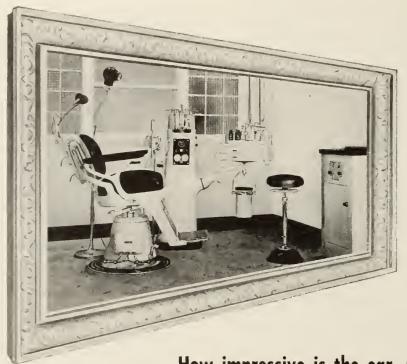
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ucational bodies in this country and in others. . . . It is fortunate indeed for the public and the medical profession that there exists an unselfish body such as the Council which can give scientific consideration to rational therapeutics and issue its statements without fear or favor."

DUODENAL ULCER IN TWINS

Reporting a case of identical twin brothers who developed identically complicated duodenal ulcers at the same period of life, Gordon McHardy, M. D., and Donovan C. Browne, M. D., New Orleans, declare in The Journal of the American Medical Association for February 19 that these two cases would seem to confirm the theory of constitutional predisposition. They say they believe their report is the first one of a duodenal ulcer occurring in one or both of identical twins.



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Miscellany

BAR ASSOCIATION CONDEMNS WAGNER-MURRAY-DINGELL BILL

The Wagner-Murray-Dingell bill has been condemned by the House of Delegates of the American Bar Association as being replete with confusion in the form in which it is drawn. This proposal, say the lawyers, would inevitably produce communistic medicine in the United States and place the American people in a medical straitjacket. The Journal of the American Medical Association for March 11, in an editorial summarizing the bar association's report on the proposed legislation, says:

"The report criticizes the proposed legislation because it is 'prepared in a form which has become popular in the past ten years,

being replete with involvement, cross references, new terminology, percentages and other confusing matters,' so that the chapter on socialized medicine leaves the reader in utter confusion as to its meaning. The distinguished lawyers who prepared this statement point out that 'no one can estimate how much tax money is involved or how many people are covered' from the face of the bill. Since, however, the bill would propose to include every individual worker and since every family in the United States has at least one and one-half employed working members, the coverage would include practically every family in the United States.

"The statements made by Senator Wagner in introducing this measure are analyzed and at least twelve are pilloried as incorrect and misleading.

"A fourth section of the report emphasizes the high quality of medical service prevailing in the United States today and points out that the indigent who are most in need of medical care would not be covered by this measure. 'The Wagner-Murray-Dingell bill,' says this statement, 'would inevitably produce communistic medicine in the United States and would put all the people in a medical straitjacket under the supervision of the federal government for an alleged service which the vast majority either do not require or are able to provide for themselves.'

"Finally the report emphasizes that there are being developed in this country and under our system of private enterprise many plans for providing adequate medical care without paying the price of socialized medicine. At a previous session the House of Delegates of the American Bar Association stated its opposition 'to any legislation, decree or mandate that subjects the practice of medicine to federal control and regulation beyond that presently imposed under the American system of free enterprise.'

"As a reason for its entrance into consideration of the Wagner-Murray-Dingell bill the House of Delegates of the American Bar Association explains that its organization is limited to an expression of opinion and judgment with respect to those fields which relate to the administration of justice and which directly affect the safeguards and protection of the rights and liberties of the citizens of this country. When, therefore, under the pretext of the general welfare, legislation is proposed in Congress which either inadvertently or with deliberate subtlety constitutes a direct attack on the rights and liberties of the citizens of this country, it becomes the duty of the American Bar Association actively to voice its objections. The six objections listed specifically include the extent to which the measure depreciates local self government: a condemnation of the authority vested in the Surgeon General of the United States Public Health Service by S. 1161 which would give him the power arbitrarily to make rules and regulations having the force and effect of law; a condemnation of the procedure by which physicians, hospitals and individual citizens would be made to serve the purposes of a federal agency; the failure of the bill to safeguard the rights of patients, citizens, hospitals or doctors, which might be denied by the arbitrary or capricious action of one man; the failure of the bill to provide for any appeal from the action of the Surgeon General; and, finally, the severe condemnation of the vicious system whereby administration officials judge without court review the actions of their subordinates in carrying out orders which might be issued to them.

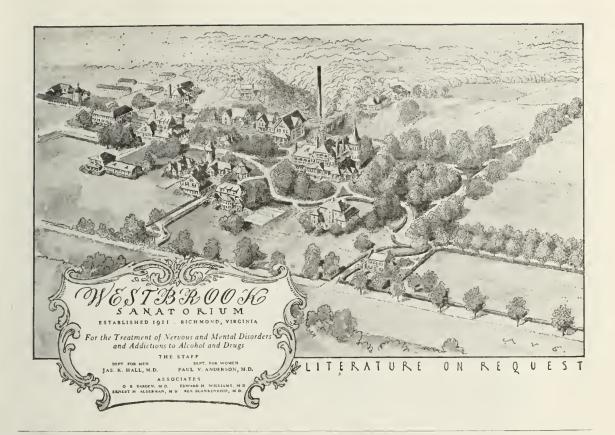
"The final paragraph of this report of the American Bar Association merits quotation and requotation as a fundamental appeal to the citizens of the United States to protect the Constitution. This statement says:

The Constitution of the United States is designed to protect the citizens of this republic in the exercise of the rights of free men. The provisions of that instrument can be rendered impotent when our citizens, for the sake of an apparent immediate benefit, surrender to their government such direct control over their lives that government, by imposing a constant fear upon them of having those benefits withheld or withdrawn, can compel from them obedience and subservience to its dictates."

OPINION POLL SHOWS CONFIDENCE OF PEOPLE IN AMERICAN MEDICINE

The results of a public opinion survey, made to determine the opinion of the American people about medical care, reveal the confidence of the people in American medicine and constitute a challenge to medical leadership, The Journal of the American Medical Association declares in an editorial in its March 11 issue. The survey showed that less than one tenth of those interviewed thought of the American Medical Association as a "union" of physicians or as a "trust" or as being otherwise primarily a self-interested body. The Journal says:

"In July 1943 the National Physicians Committee employed the largest opinion research group in this country to make a comprehensive study of the people's opinion about medical care. The results of that study have just been made available. In making this survey the National Physicians Committee has rendered a distinguished service to American medicine. The report should be of great help to medical leaders by pointing the way in planning for the extension of medical service. The report indicates the necessity for more education of the public regarding the issues involved in proposals for changing the nature of medical service. When people understand the issues, an overwhelming majority are unqualifiedly opposed to any such proposals as the Wagner-Murray-Dingell bill, which would establish federal control of medical practice. Even though the people sense the need for the ex-



tension of facilities designed to meet the costs of unusual or prolonged illness, only a small minority, as shown by this report, believe that compulsory sickness insurance would provide a satisfactory solution to the problem.

"Many of the questions in this research concerned the personal experiences of the people with medical care as now provided in the United States. The replies, in great majority, indicated that the people are deeply conscious of the value of individualized service in the effectiveness of medical care, that they want complete freedom of choice in time of illness and that they believe choice would be limited and restricted by administration of medical care under the auspices of the federal government.

"Out of this report came the conviction that many persons find difficulty in meeting bills for unusual or prolonged illness and desire to participate in plans or methods for insurance against the hazards of emergency illness. Already great numbers of people are familiar with the various prepayment plans for medical service available throughout the country. The investigations extended into many communities in which such plans are operating and covered the experi-

ences of the participants. To summarize the many questions asked on this phase of the report: Persons who participate in prepayment plans approve them; in every instance such persons believe they are better off than their neighbors who have no such opportunity; the doctors in areas where such plans are in operation believe that the people are better off because of the operation of the plan. More than 50 per cent of the doctors in such areas stated that it would be a good thing if all industries would operate prepayment medical and hospital service plans for their employees.

"In a special survey paralleling the study of medical service, opinion was sought concerning the American Medical Association. More than three fourths of the people who were questioned had heard of the American Medical Association, and about half of these defined its purposes with reasonable accuracy. In general, those who had heard of the American Medical Association expressed approval. The inquiry about the American Medical Association was made in the survey to determine the extent to which mention of the public education activities of the medical profession would tend to have a favorable influence on public thinking."

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